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## Lectures.

### A COURSE OF LECTURES
ON
### MEDICAL JURISPRUDENCE.

*Delivered at Guy's Hospital,*

By Alfred S. Taylor, F.R.S.

### Lecture I.

*Definition of the science—Difference in the duties of the medical practitioner and medical jurist—Importance of the subject—Knowledge of the science possessed by barristers—Medical counsel and medical witnesses—Rules regarding the delivery of evidence—Cross-examination—Medical evidence in the case of the Queen* v. *Hunter—The science requires special study—Evidence of John Hunter—Limits of the science—Cases which most frequently present themselves—Secret deaths from poisoning—Importance of the study of practical toxicology.*

We have met this morning to commence the annual course of lectures on Medical Jurisprudence. The utility of this subject, as a branch of medical study, is now so fully recognized, that it is scarcely necessary for me to detain you by any introductory remarks on the subject. By medical jurisprudence, or, as it is sometimes called, Forensic or Legal medicine, we are to understand that science "*which teaches the application of every branch of medical knowledge, to the purposes of the law.*" It is therefore, you will perceive, a very comprehensive subject; and it is properly made the last course of study, required under the present rules of medical education.

While in lectures on medicine and surgery the teacher directs his observations to the diagnosis and treatment of disease, as it affects the living:—in lectures on medical jurisprudence he has to develope and elucidate those medical questions which are chiefly connected with the dead. Thus a medical jurist has to determine whether the cause of death in a particular case be natural or violent; and for this purpose, it will be necessary for him to make an entirely new application of his professional knowledge. He has now the difficult task of making a selection from those parts of all other sciences, which bear upon the legal proof and development of crime.

It has been asserted that such a subject cannot be taught by lectures; but it would be more correct to say, that lectures upon this science cannot wholly supply the place of practical experience. We may grant that they are not fitted to render a man at once a practical medical jurist, but nevertheless they have their use. In this, as in the oral teaching of all sciences, lectures lead a man to think, reflect and observe for himself. In medical jurisprudence facts will come before him, which he has probably never previously met with:—his judgment is constantly appealed to:—it is in his power, to compare the inference drawn from particular facts, with that which he would himself have drawn under the same circumstances; and this exercise of mind, is attended with more real advantage, than can ever be obtained by a simple reference to written authorities. Lectures on medical jurisprudence are, or at least ought to be, essentially *suggestive*:—they should, by showing what has been *done* and what *omitted*, indicate the course to be pursued in every future case. This is all that can be accomplished by oral teaching. A man cannot, however, acquire knowledge under any system of instruction, before he has accustomed himself to observation and reflection. Lectures can never supply the place of these two faculties, but they will assuredly lead to their exercise and development.

Many members of the profession have been inclined to look upon medical jurisprudence as an unnecessary addition to medical study; but there are few who have been long engaged in practice, who have not found themselves placed in a situation of difficulty, by the accidental occurrence of cases, demanding medico-legal investigation.

A practitioner is called in to attend a person labouring under the effects of poison criminally administered. In spite of the best treatment, death ensues:—here the functions of the medical man end, and those of the medical witness begin. It is utterly impossible that he can now avoid giving evidence, or shift the responsibility on another,—the legal authorities will insist upon his appearance, first in the court of the coroner, and afterwards at the assizes. It will here be assumed that he is fully competent to answer every question put to him by counsel and judges, relative to the general effects of poisons,—the quantity of each required to destroy life,—and the time within which a poison may prove fatal. It may be objected to his evidence, that the deceased had died from the effects of disease, and not from poison,—in which case the cross-examination will lead to a searching inquiry into the diseases which resemble poisoning, in their symptoms and post-mortem appearances,—the means of making a certain diagnosis, and the fallacies to which the chemical processes for the detection of poison are liable. Or the case may be, that the practitioner is called to render assistance to one, who has been stabbed in a quarrel, and who

speedily dies from the wound. The office of the surgeon ceases, while that of the medical jurist commences. He must now be prepared to answer numerous questions,—all bearing upon the legal proof of crime,—all necessary in *law*, although apparently *superfluous in surgery*. Thus he may be asked to state the precise characters of a wound inflicted upon the body of a man soon after death,—by what means was a particular wound inflicted?—was it homicidal or accidental?—could the individual have moved or performed any act after receiving it?—are certain red stains found upon his clothes, or upon a knife belonging to him, owing to effused blood or other causes? It need hardly be observed, that questions of this kind are never examined by teachers of chemistry or surgery; and a practitioner is not likely to acquire the means of answering them by intuition. On the other hand, regarding ourselves as living in a civilized state, in which the certain detection and punishment of crime are indispensable to the security of all, it is impossible to overrate their importance. Unless a witness be able to return answers to these questions when a public necessity occurs, a guilty man may escape punishment, while an innocent man may be condemned. He may thus most seriously injure his own reputation; for it is certain that his qualifications as a physician, surgeon, or general practitioner, however eminent, will not shield him from universal reprobation.

Thus, then, it is obvious that the duties of a medical jurist are of great importance to society. The cases which call them into exercise are of purely accidental occurrence; and a medical practitioner who thinks himself secure in the most retired corner of the kingdom, is liable to find himself suddenly summoned as a witness on a trial, to answer questions which perhaps during the period of study, he had been led to regard as trifling and unimportant. Under the circumstances it is scarcely possible that he can avoid exposing his deficiencies, and the final question will be—*Have you ever attended to or thought of these subjects before?* A negative answer to this question, while it commonly brings with it public censure, must in most instances lead to the acquittal of the accused.

I have endeavoured to avoid overdrawing this picture; its truth will, I am sure, be felt and acknowledged by all those who have been a few years engaged in practice. The records of our law-courts contain many unfortunate exposures, which might have been easily avoided, had the witnesses only availed themselves of the opportunities afforded to them, of acquiring a knowledge of such subjects; but they had unreflectingly acted on the principle, that medical jurisprudence was a dry, dull and useless study, and that the practice of it was remote and speculative. This feeling is, however, fast disappearing;—those who have given a little attention to the subject, have been surprised at the interest which is excited by the discussion of medico-legal questions: and there is no doubt that the science requires only to be known, to have its value fully appreciated.

Many medical men, without a knowledge of legal medicine, have sometimes ventured to act as witnesses, thinking that the subjects on which they were likely to be examined, were so little known to judges and counsel, that even hazardous or rash statements would escape observation: such witnesses, however, have often found to their cost, that they were labouring under a fatal delusion. Various circumstances have led, in recent times, to the acquisition of much medico-legal knowledge by lawyers, more especially in relation to questions of child-murder and poisoning; and barristers are not slow in detecting and exposing a mere pretender, who attempts to shelter himself under the use of technical terms. There are few counsel engaged in a criminal prosecution, who do not seek in the works of Orfila, Christison, Beck, and others, for an exposition of standard medical doctrines, as well as the grounds on which they are based; and with these works before them, and with their proverbial acuteness, he must be indeed a clever witness who, in a well-conducted examination, can succeed in passing off an erroneous answer to a medico-legal question.

There is another circumstance which also requires the attention of the practitioner. Some barristers who feel themselves unable to discuss the medical bearings of a question, are in the habit of employing medical men to instruct them in the best mode of endeavouring to baffle medical witnesses so as if possible to place the case at least in an equivocal light before the jury. In short, there are some in the profession always ready to act as medical counsel, and to be retained for the prosecution or defence, as the case may be. It is obvious that, even if interference were prudent under the present system of summoning medical witnesses, the law cannot interfere to check a practice which is certainly liable to lead to evil results: for the parties who give the suggestions which may suit the purpose of an advocate, do not always act as witnesses, and therefore cannot have their own means of knowledge or sources of experience fairly tested, while the *selected* medical facts or opinions which they may communicate to the advocate may have the intended effect of confusing the minds of the jury. This is more especially liable to occur when, according to the forms

of law, a right to reply on the part of the Crown in a criminal case, is cut off from the prosecution by the counsel in defence declining to call witnesses. Under these circumstances, the result must depend on the acumen and medical knowledge possessed by the judge who tries the case.

Medical counsel and medical witnesses are differently placed in relation to the case under investigation. While the medical counsel may have undue weight given to his suggestions in their being put boldly forward as ascertained medical truths by the barrister who retains him, he entirely escapes that searching examination into his competency which is infallibly the lot of a medical witness; and, again, while the latter is bound by his oath, without reference to the prosecution or defence, to state the *whole* truth, the former is only obliged to give so much of the truth as may suit the case of the party for whom he appears. In short, like the barrister, he is not an advocate of any abstract principle of justice, but of the cause of his client. How far a medical man has a moral right to make use of his professional knowledge to embarrass the testimony of those of his professional brethren, who are compelled by law to appear and give evidence to the best of their ability, is a question into which it is here unnecessary to enter, as it appertains rather to medical ethics than to medical jurisprudence; but I have not the least doubt, that, while in some few instances, the practice may work well by preventing convictions from taking place upon erroneous evidence, it is liable in most cases to be perverted to the worst purposes. An unscrupulous man who chose to make himself thoroughly acquainted with the difficulties of the science, the principles of which I am about to bring before you, might in this way so pervert the medical facts of a case, and lead to the confusion of witnesses, who were not able to cope with him, as to procure acquittals in face of the most convincing proofs of guilt. The correction of this evil, however, lies with yourselves. By making yourselves masters of the subject before entering the witness-box, you will have no occasion to fear an encounter with members of your own profession, thus disguisedly working against you. A plain statement of the truth, with the fact that you show by your evidence that you have no end to serve but the public good, will assuredly outweigh the sophistry, medical or legal, that may be arrayed against you. In the meantime, the practice just adverted to, conveys this important caution, that you must well prepare yourselves for duties which may thus be unexpectedly thrown upon you.

Some medico-legal writers have considered it necessary to lay down rules respecting the manner in which a medical witness should give his evidence; how he is to act on a cross-examination, and in what way he is to recover himself on re-examination. Any advice upon this head appears to me to be quite superfluous; since experience shows that these rules, like those given to prevent drowning, are invariably forgotten at the very moment when the individual is in the situation in which it is supposed he most requires them. A man who goes to testify to the truth to the best of his ability, need only bear in mind two points of duty. 1. That he should be well acquainted with the subject upon which he is about to give evidence. 2. That his demeanour should be always gentlemanly, and suited to the serious occasion on which he appears, even although he may feel himself provoked or irritated by the course of examination adopted. A medical witness must not show a testy disposition in having his means of knowledge, or the grounds for his opinion, closely investigated:—he should rather prepare himself with good humour to meet the attempts of an adverse counsel to involve him in contradictions; and he will always gain credit in the opinion of the Court for being actuated by a *bonâ fide* desire to state the truth. Law and custom have long established, that a barrister has a perfect right to make use of all fair, and even what may appear to the witness, unfair means for the defence of his client; and nothing can tend more to degrade a witness, or diminish the value of his evidence, than the manifestation of a disposition to deal with his examiner as if he were a personal enemy. All such exhibitions invariably end in the discomfiture of the witness. Medical men might here take a lesson from lawyers, and observe how little they allow forensic differences, which they put on with their professional costume, to influence them in their intercourse with each other, or with an adverse judge or jury.

I just now remarked, that many barristers engaged in the practice of criminal law, take care, before the occurrence of a trial, to make themselves acquainted with the medico-legal doctrines of the day; and there are among them probably some who would succeed in giving a better account of the nature of Orfila's late discoveries on arsenic and Marsh's test than others who belong to the medical profession. In a trial which took place in the spring of 1843 at Liverpool (Queen *v.* Hunter), the medical witnesses were closely examined by the judge and counsel on all the facts connected with the use of Marsh's test, and on the chemical processes for separating arsenic from the tissues in the dead body. Thus, then, it must not be supposed that a witness can always escape on the common but erroneous

presumption that his examiner is necessarily less informed than himself on medico-legal subjects.

I know of no modern trial which more strikingly shows the necessity for a close attention being paid to the study of medical jurisprudence than this; and I shall here read from a pamphlet some parts of the evidence, in order that you may judge for yourselves what may be expected from you when you are required to act as medical witnesses.

In this case a woman was charged with having poisoned her husband with arsenic. No poison was found in the body, and the symptoms and appearances were referred by some of the medical witnesses to natural causes—by others to the effects of arsenic. Mr. Dyson, surgeon, of Manchester, is under examination for the prosecution, and states:—

"I have inspected six cases of poisoning by arsenic, and the appearances in this were very distinct and marked, only more severe than I have before seen. The absence of the arsenic may be accounted for by its having been evacuated by vomiting, or purging, or by its having been absorbed into the system. I think it might be thus got rid of in three days and nights. It might have required a week or two, or more, to carry off all traces from the flesh. The JUDGE: If a piece of flesh were cut off, supposing arsenic to have been absorbed, could it not be discovered by submitting the flesh to chemical analysis?—WITNESS: The French chemists have discovered it in flesh; but I was not aware of it when I made the examination.—By Mr. WILKINS: The arsenic might have been carried off by insensible perspiration, and other means in progress for its elimination, in the course of two or three days.—The JUDGE: Would all traces of arsenic be likely to be carried away if taken at six o'clock on Friday night if the person died on Monday evening?—WITNESS: All from the stomach and bowels.—The JUDGE: But from the flesh? WITNESS: I cannot tell.—The JUDGE: Was the flesh examined? WITNESS: No, my Lord.—The JUDGE: That was a pity!—By Mr. WILKINS: Had read Christison and Orfila, and my reading, as well as my experience, confirmed these opinions."

"Arsenic is soluble to the extent of 77 parts in 1000 of hot water. I account for its disappearance from its having been given in solution. In the six cases I have examined, arsenic was found, but in every case the arsenic was given in substance, the quantity varied from a quarter of an ounce to an ounce. Thirty grains would be enough to kill an adult. [This reply was probably made as a mere affirmative answer to a question, since a much smaller quantity than thirty grains has destroyed life.]—Mr. POLLOCK: But how much of thirty grains would six or seven spoonfuls of milk porridge dissolve? WITNESS; The whole of it!—Mr. POLLOCK: Dissolve, not suspend? WITNESS: It will, if hot, dissolve as much, or more. It will dissolve as much again in hot as in cold milk. I take the data of chemists. The medicines given would promote its removal by rendering the arsenic more soluble by forming arsenite of potash and ammonia.—Mr. POLLOCK: But would they have that effect if given with lemon-juice? WITNESS: It would depend upon the affinity of the acids for the alkalis. Mr. POLLOCK: And which has the stronger affinity? WITNESS: I do not know! There was destruction of the mucous coat of those parts which natural disease seldom affects. The jejunum is rarely affected in natural disease; in this case it was much affected: there was softening of the mucous membrane. Inflammatory patches might occur from natural disease in the stomach, but not in the jejunum. The extent of the diseased appearances depends upon the time of death from the time of taking the poison; when life is protracted arsenic produces more extensive local effects than natural diseese. I noticed the spots of extravasated blood at the inspection, and would have mentioned them at the inquest, but was requested not to give the particulars; they are mentioned in the report written a week after the inspection. The JUDGE: Not written at the time? WITNESS: No, my Lord, a week after. Arsenic boiled in milk does not perceptibly alter its taste. It has not an acrid taste in the mouth, but if swallowed, as soon as it passed the gullet, a sense of heat would be felt."

The chemical evidence is also worthy of your notice. Mr. John Davies states, "I have studied chemistry a great many years. Received the contents of the stomach from Mr. Harrison (who was examined yesterday), and separated them. Carefully analyzed them, and also some porridge* given to me by Mr. Deswick. After the most accurate investigation, having subjected the contents of the stomach and intestines, both separately and conjointly, not only to four or five different tests, but also applied those expedients for the reduction of the metal which would be decisive if the metal had been present, I found no poison whatever. There were no traces of arsenic whatever. I applied the sulphuretted hydrogen test, nitrate of silver, Marsh's test, and the reduction by

* This porridge was, I believe, some which was found in a broken basin in the midden, and is supposed to be that which the prisoner threw away, believing it to be the cause of her husband's illness; but this is doubtful.

the black flux. I did not find any powder at all. I did not find anything in the porridge. Alkalies and carbonated alkalies will dissolve arsenic in the stomach. I do not know of such a case from my own knowledge, but from the highest authority. I know some striking cases. I heard the evidence of Mr. Harrison yesterday, who told me on one occasion he administered a quantity of potash without acid. That would have a tendency to dissolve arsenic if anywhere in the stomach. Citric acid has a greater affinity to arsenic than potash [to potash than arsenic ?] I think it possible that the prescriptions administered to the deceased would have a tendency to remove arsenic from the stomach and bowels, supposing it to be present. I have been in the habit of examining many stomachs where arsenic has been administered. *Cross-examined:* I can hardly say what is the smallest portion of arsenic I could have discovered; but I could discover one part in one hundred thousand parts, and think it probable in several hundred thousand parts. Could have discovered a very small portion of a grain had it been present. I think if any had been present I could have discovered it. I have a high opinion of Marsh's test, which I tried. Much smaller than the ten-thousandth part of a grain would be visible by that test, and I know, from the testimony of a distinguished chemist, that one-millionth part of a grain has been rendered visible. Examined the whole contents of the intestines, and did not find any arsenic; also examined the porridge, and a small quantity of white powder, but found no arsenic. I know from my own knowledge, that carbonated alkalies will dissolve arsenic, and from the evidence I heard yesterday, I think the arsenic would be rendered soluble by the medicines, but think it not so very probable that the poison might have been removed in the time, but it might have been removed. I do not know of any case in which individuals have died within three days of arsenic, and no arsenic found, of my own knowledge; but know of well-authenticated cases in which persons have died from arsenic, and no arsenic had been found.—*Re-examined:* The questions put to me in cross-examination are much more fit for a pathologist than a chemist."

Dr. Carson stated, "I think it possible that arsenic would disappear from the body in three days; but I know of no case on record where death has resulted from arsenic that arsenic has not been found. I have known, after the lapse of seven or eight days, arsenic to disappear from the body; and my general impression is, that that is the shortest time. I think it probable that the causes which were in operation would remove as much arsenic as would cause death. The JUDGE: Those causes would cease with death? Yes.—The JUDGE: Would it so completely remove the arsenic that it would be impossible to discover the one-millionth part of a grain? I think the arsenic might be completely removed. Cross-examined by Mr. POLLOCK: I think the greater portion would pass off by vomiting and evacuation, and that which was absorbed would pass off in other ways. The greater the diminution of vomiting, or other causes, the less, of course, would be the chance of the arsenic being carried away. I am of opinion that idiopathic gastritis was never seen in this country."

You will perceive, from the mode of examination here adopted, that on one trial only the witnesses were called upon to state —the means by which arsenic is eliminated from the body of a person who has taken that poison,—the shortest period of time required for its disappearance,—the means for detecting absorbed arsenic in the muscles and other tissues of the body,—the degree of solubility of the poison in hot and cold water, in milk and porridge,—the effect of suspension as contrasted with solution,—the effect of alkaline medicines in causing the more speedy disappearance of the poison from the body,—the relative affinity of arsenious acid and citric acid for an alkaline base,—the taste of the poison, and how far this may be modified by the liquid in which it is dissolved,—the tests applied for the detection of arsenic,—and the smallest quantity of the poison which may be discovered by their use.

We shall have hereafter an opportunity of seeing how closely medical evidence is sifted in other cases, and what a vast and unexpected range it may take during an examination. The summary just given, however, will shew that a witness must not always rely upon what he may regard as his best security, *i. e.* the weakness of his examiner in respect to medical knowledge. That the questions were put on a trial for life or death, is a sufficient indication of their importance: and I shall now leave you to consider whether an individual who ventures into practice without having given some attention to this important subject, is not likely to incur a most serious responsibility.

It has been already stated, that medical jurisprudence consists essentially in a cautious selection of medical facts, and the proper application of medical principles, to the elucidation of any legal question:—hence the limits of this science are, on the one hand, the wants of the law, and on the other, the whole extent of medicine. Surgery, anatomy, physiology, pathology, and chemistry, are all necessary to a medical jurist. This long list of qualifications must not, however, be allowed to deter you

from entering upon the study. It is assuredly beyond the mental power of any individual, that he should be at the same time profoundly versed in all the principles of medicine and jurisprudence, and that he should be able to answer all possible questions, and encounter and remove all medical difficulties, that may occur at a criminal trial. All that the law expects from a practitioner is a fair average knowledge not merely of his profession, but of what falls more peculiarly under the province of a medical witness. There can be no doubt that the more perfectly a man has made himself master of his profession, the better will he be fitted to follow the principles and appreciate the value of medical jurisprudence; but he must divest himself of the notion, that these principles can be spontaneously acquired, or that they are necessarily derived from the study of those isolated branches of medicine upon which medical jurisprudence professes to be based. The materials for the medical jurist undoubtedly exist in these sciences: but they require to be assorted, selected, and moulded into shape, before they can be applied to any useful purpose. A man may be an excellent practical physician or surgeon, and yet find himself deficient when called upon to act as a medical witness. There was no doubt that the celebrated John Hunter stood in his time at the very head of his profession, and that none could have profited more by industry and experience. If sound professional knowledge could have qualified any man to act as a medical witness, we might assuredly be justified in pointing to him as an example; and yet this great man, when summoned to give evidence on a memorable trial for poisoning, which occurred in 1781, was obliged to confess, that he was unable to give any satisfactory answers to the questions put to him. With that candour which exists in all great minds, he admitted his deficiences; and he regretted to the latest period of his life that he had relied exclusively upon his professional knowledge. In his time medical jurisprudence was unknown; but the want of it was clearly perceived. It was then obvious that a peculiar kind of experience was required to fit a man to act as a witness in a Court of Law:—that many loose principles existed in medicine, surgery, and chemistry, the fallacies of which were quite unimportant so far as they related to medical practice,—but which required to be closely sifted and thoroughly examined before they could be received as evidence in law. Medical men were apt to confound what was mere matter of *belief* with *proof*. In a Court of Law, however, the difference was soon made apparent: and out of this, ultimately arose the necessity for the creation of a distinct branch of study in which all medical facts and principles capable of serving as evidence, should be developed and explained. Such, then, was the origin of the science of medical jurisprudence.

As it is proposed in these lectures to give the general applications of the principles of medical jurisprudence, it appears advisable, in teaching the science, to be guided by the relative value in a practical view of the subjects to be considered. It would be useless for me to occupy your time in the present course, by entering into long discussions on speculative matters, that may never come before you in practice. It is, I conceive, at least more reasonable to direct your attention especially to cases which are of daily, nay of almost hourly, occurrence.

Medical jurists are unfortunately by no means agreed upon the exact boundaries of their science. Some go so far as to include forgery and coining, among the subjects to which a medical practitioner must attend; while one German writer, Professor Most, even introduces the government and regulation of Temperance Societies, as subjects requiring the attention of a medical jurist. There can be no doubt that a tendency at present exists rather to carry the science beyond its fair limits than to confine it within its proper boundary. A course of medical jurisprudence is not to be made up of the substance of every other science, but rather of selected parts of each; and the best rule to be adopted by a teacher appears to me to be that of observing what subjects most frequently present themselves for medical investigation before our public tribunals. These, when properly treated, will assuredly furnish an ample field for practical instruction. I have also here to consider what may more particularly concern the duties of a general practitioner of medicine.

The results of some years' observation enable me to state, that murder by *poisoning*, murder and manslaughter by *wounding*, together with *infanticide*, constitute the great majority of the cases which came before the criminal tribunals of this country. It is therefore chiefly to these subjects that the student has to apply the medical knowledge which he has already acquired.

This table may be taken as furnishing an average estimate of the relative frequency of occurrence of medico-legal cases.

| | |
|---|---|
| Poisoning . . . . . | 45 |
| Wounds and personal injuries . | 35 |
| Infanticide . . . . . | 10 |
| All other cases . . . . . | 10 |
| | 100 |

There is probably no crime so frequent as that of *poisoning*, and none which requires for its medico-legal investigation so wide an

acquaintance with the various branches of medical study. Anatomy, medicine, pathology, and chemistry, are here absolutely demanded of a practitioner, for it is upon these sciences that toxicology is based. There is great reason to suspect that in spite of the many improvements in this branch of science the crime of poisoning is more frequent than it is supposed to be; and that under the present system of conducting coroners' inquests, *i. e.* of leaving in many cases the necessity for the inspection of a body to be determined by those who are in general wholly unacquainted with the principles of medicine, many individuals whose deaths are pronounced by the verdicts to be *natural*, are hurried to the grave by *poison*. This will be easily comprehended, when the difficulty of detecting these cases is explained; the symptoms are often equivocal, and as a post-mortem examination is not invariably required, such cases must necessarily escape detection. The great error in the system appears to me to be that the inspection of a body is not ordered, unless there be a strong suspicion of the cause of death; when, in point of fact, in all secret cases of poisoning, the true source of evidence is the careful examination of the body itself, and unless there be a strong suspicion that the death was not natural, it is difficult to understand why any inquest whatever should be held. That this is no exaggerated statement will, I think, be apparent to you, when it is considered, that exhumations of the dead have of late years taken place after the lapse of weeks, months, and sometimes of years; and on inspection, poison has been found in the stomachs of the deceased, when at the inquest they had been pronounced to have died from natural causes. We shall, however, have an opportunity of entering into this question more fully in treating of Toxicology.

In concluding the lecture, I have to call your attention to the establishment, in connexion with these lectures, of a Class of Practical Toxicology. From the experiments performed in the general lectures on the analysis of poisons, it is evidently impossible that a student can acquire more than a fleeting knowledge of the effects of tests and reagents. The taking of notes may assist the memory, but the results cannot be permanently impressed on the mind without direct personal experience. Besides, during the performance of the experiments in lectures, doubts and difficulties may occur to him, which he cannot, at the time, have solved: and which probably before the conclusion of the lecture, escape from him altogether. These evils, inseparable from the present prescribed mode of teaching, in which the amount of knowledge is unfortunately made to depend on the precise *number* of lectures at which attendance is given, can, it appears to me, be removed only by the adoption of a systematic course of practical instruction, in which the reason for an experiment, and the results of it, are clearly brought before the mind at the time of its performance.

If you agree with me in this view, I am satisfied that when you are engaged in practice, you will not be placed, under what we must consider in the present day, the disgraceful necessity of employing some "*analytical chemist*," at a distance, to undertake the analysis of a suspected poisonous substance. There may be complex cases in which the assistance of others will be required, but these are only of an exceptional nature. Let it be remembered that on a trial for murder by poison, a question invariably put to a witness, is, whether he has ever been accustomed to the analysis of poisons; and there are some trials on record, in which legal convictions could not take place, simply because the witness had never attempted an analysis before that particular occasion. With such an admission, wrung from the witness by a cross-examination, a jury is, in general, most unwilling to rely upon the chemical evidence.

It is unfortunate that the beneficial effects of a course of this description are seldom sufficiently appreciated by those actually engaged in completing their studies. A student is apt to remain satisfied with the reflection, that there is already enough to occupy mind and body in keeping to the line marked out by the regulations of the Hall and College. It is proper, however, to observe, that, even under these regulations, a pupil is always presumed to acquire that knowledge of the subject of toxicology, which it is not possible for him to obtain, without making some addition to the legalised curriculum of study.

The necessity for this addition, in the shape of *practical toxicology*, has been long felt by those who have passed their examinations, and established themselves in practice. They have found, when too late, that they had neglected a most useful branch of practical chemistry; and one which, unless it be acquired during the period of study, is lost for ever to a practitioner. The cares and anxieties of practice, and the want of any opportunity for proper experimental illustrations, are a sufficient bar to this subject being prosecuted with any success in after life. There can be no doubt that very heavy labour is thrown on the medical student of the present day; but the question is here one of *necessity* rather than of *inclination*. By industrious habits the whole of these difficulties are removed. This is the great secret of success. When we look into the lives of all those, who, from comparative

obscurity, have raised themselves to the highest ranks of the profession, we find that there is one, and only one, point, in which they have uniformly agreed, namely, that of manifesting *untiring industry* in the pursuit of professional knowledge.

In reference to the number of subjects, to the study of which a medical student is now compelled to devote himself, I do not know that I can do better than quote to you in conclusion some remarks lately made by Dr. Hare, of Philadelphia:—

"In proportion as the qualifications requisite to a medical degree are difficult of acquisition, and elevated in their nature, so will be the standing of those on whom it may be bestowed. As there is no royal way of becoming a mathematician, so there is no *easy* mode of becoming a skilful, learned, and eminent practitioner. Fame can only exist at heights inaccessible to ignorance, indolence, and imbecility. The paths which lead to her abode are rugged, steep, and circuitous. All who seek that pinnacle by the highways of sloth and pleasure will inevitably find themselves lost in the shades of ignoble obscurity."

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### DIAGNOSIS OF CANCER OF THE CERVIX UTERI.

M. Lisfranc, whose experience is very great, and whose opinions are of so much importance in this matter, published, in the Gazette Médicale, the following differential signs.

1. Simple engorgement is softer, and its surface is more even to the touch, than scirrhus, which presents prominences and inequalities.

2. In scirrhus, the mucous membrane of the neck is of a dull white colour, which, according to this celebrated practitioner, is not the case in simple engorgement.

3. Scirrhus is developed more slowly; for example, when an engorgement dates from one or two months only, and especially when it follows abortion, ordinary labour, or sudden suppression of the menstruæ, we infer, says M. Lisfranc, that it is not of a scirrhous nature.

4. Finally, simple engorgement requires a treatment of a month or six weeks, whilst scirrhus is much longer in recovering. We will add to the characters of scirrhus, mentioned by the able surgeon of La Pitié, that engorgement is generally less sensible, less active, and more circumscribed, than simple induration; we shall also add, that its formation is not accompanied by such marked symptoms, nor does it produce at the outset such troublesome symptoms or such well-marked general phenomena. Finally, let us say that, under the influence of bleeding, strict diet, repose, antiphlogistics, and resolvents, simple engorgement of the uterus usually diminishes with great rapidity, which never occurs in scirrhus degeneration, even at the beginning.—*Colombat on the Diseases of Females. Meig's Translation.*

### NEW KIND OF FINE INJECTION.

It has always been a matter of difficulty to make a successful injection of the kidney, through the ureter, and with the ordinary fluids of injection this cannot be effected. The plan of double injection, recently proposed and adopted on the continent, and used with so much success by Mr. Bowman in his investigations on the minute anatomy of the kidney, was a great improvement; and the principle of it has been still further improved upon lately by Dr. Gerlach. Instead of injecting the two fluids one after the other, and allowing the precipitate which results from the chemical reaction of the two solutions on coming into contact with each other, to take place within the urinary tubule (or other parts into which they may have been injected), he forms the precipitate at once by mixing the two fluids together before injecting them. The salts which he and others most commonly use in the double injection are, the bichromate of potash and the acetate of lead, which when in solution and mixed together give rise to a fine yellow precipitate of chromate of lead. By dissolving these two salts separately in a moderately strong solution of gelatine, and then mixing them together, Dr. Gerlach states, that a thin yellow fluid is obtained, throughout which the particles of the precipitated chromate of lead are held equally diffused by means of the gelatine, and have no tendency to sink to the bottom: the extreme thinness of the fluid allows of its being used for very fine injections, and thus obviates the necessity of making a double injection: by means of it Dr. Gerlach has succeeded in injecting the capsules of the Malpighian bodies through the uriniferous tubes; thus proving the accuracy of Bowman's statement, that there is a direct continuity of the capsules with the uriniferous tubes. Two other advantages possessed by this injection fluid are, that it does not require a high temperature for its fluidity, and when injected takes a tolerably long time to cool and set: this latter condition renders it especially adapted to the injection of the excretory canals of glands, where success depends in great measure on the care and particularly the slowness with which the injection is performed. Dr. Gerlach recommends also, especially for ordinary purposes of injection, a solution of gelatine, to which is added a small quantity of very finely powdered carmine, just enough to colour it. — *Müller's Archiv.* Heft. 4, 1845.

A COURSE OF

# LECTURES ON DENTAL PHYSIOLOGY AND SURGERY,

*Delivered at the Middlesex Hospital School,*

By John Tomes, Esq.
Surgeon-Dentist to the Hospital.

## Lecture III.

Gentlemen,—At our last lecture we were engaged in considering the dentinal tubes; we shall now give our attention to the uniting medium of the tubes.

The second part composing the dentine is the intertubular tissue, which occupies the spaces between the tubuli, everywhere surrounding and investing them, and thereby contributing greatly in rendering the whole dentine a solid dense mass, the area of the tubes and cells being the only hollow portion. It would be difficult to estimate beyond mere guess the relative amount of this structure in a tooth as distinguished from the parietes of the tubes, since it is only seen in a transverse section of the latter, where the area of the tube is in appearance about equal to the diameter of its parietes, and the intervening space between the two tubes about equal to the diameter of a tube. This (the intertubular) tissue, in a favourable specimen, I have seen composed of very minute granules united to each other on all sides, thus forming a solid mass, of which, in character of formation, oolite would give a coarse illustration. The granularity is best seen near the external surfaces of perfect dentine, or in the tissue when developing. In the intertubular tissue, hemispherical or elliptical cells are found, especially near the surface of the dentine of the fang, where they form a layer joining the cement. This, in a paper read before the Royal Society, I described as the granular layer, on the coronal surface of the dentine they are not numerous. With these cells the dentinal tubes communicate, as do others coming from the cemental cells. This point will, however, be further examined when the relations of the dentinal tissues are considered.

We have seen that the parietes of the pulp cavity, under a high magnifying power, present a surface perforated by innumerable minute pores, each pore being surrounded by a circular line, and a tissue intervening between the circular lines of the various pores. The coronal surface, on the contrary, presents a series of minute depressions of hexagonal form. In addition to these, this surface is marked by larger undulation. Into these minute depressions the ends of the fibres of the enamel are received. At present, the dentinal tubes and cells, and the pulp cavity, have alone been described as existing in the dentine; but in addition to these, we have, in many instances, canals for vessels traversing the tissue, just as we have the Haversian canals perforating bone. In the tooth of man these vascular canals are never numerous, and occur only in a few teeth. (Fig. 6.) I have seen one or two specimens only in which they traverse the dentine.

Fig. 6.

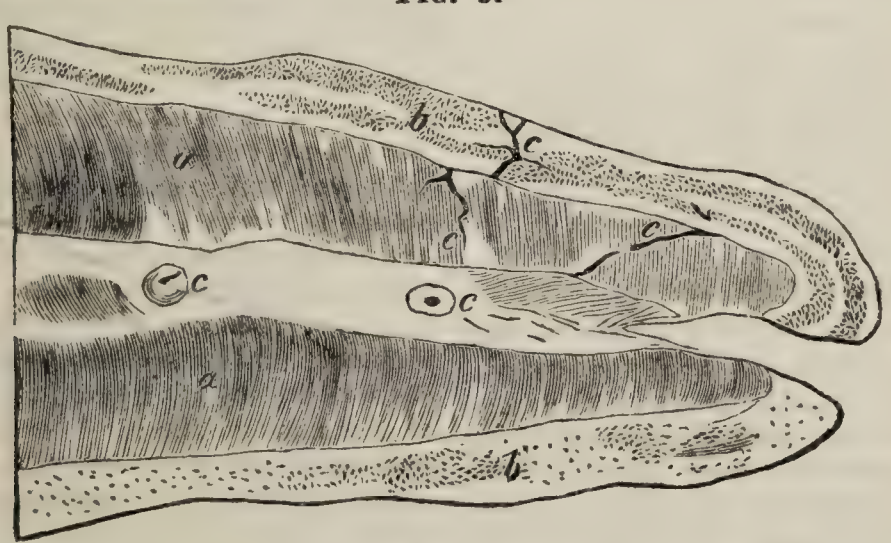


Fig. 6.—Longitudinal section of the fang of a human tooth, in which is shown vascula canals traversing the dentine. *a*, The dentine; *b*, the cementum; *c*, vascular canals.

In some animals, however, teeth are found in which the dentine is, in all cases, vascular; the teeth of the walrus offer an example, as do others of the kangaroo and the rabbit. In those instances of vascular canals traversing the dentine which have come under my observation, their direction has been from the pulp cavity towards the surface of the root of the teeth. It must be borne in mind that at present we have been speaking of the dentine alone, and not of the cement, which is generally vascular.

In the teeth of old persons, or in teeth that have been much worn, the pulp cavity

becomes much diminished in size, or wholly obliterated by what may be called a secondary development of dentine. The pulp, in such cases, is formed into dentine, the new uniting or not with the previously formed tissue. Such dentine is usually traversed by vascular canals, around each of which the characteristic branching tubuli are arranged radially, as those of the body of the tooth were arranged round the pulp cavity.

Chemically, the dentine is, according to Bibra, composed of the following organic and inorganic substances.

*Incisors of Adult Man.—Dentine.*

| | |
|---|---|
| Organic substances . . . | 2828·78 |
| Inorganic substances . . . | 71·30 |
| | 100·00 |

*Molars of Man.*

| | |
|---|---|
| Phosphate of lime, with a trace of fluate of lime . . | 66 72 |
| Carbonate of lime . . . . | 3·36 |
| Phosphate of magnesia . . . | 1·08 |
| Salts . . . . . | 0·83 |
| Chondrine . . . . . | 27·61 |
| Fat . . . . . | 0·40 |
| | 100·00 |

Like bone, the dentine is coloured by feeding the animal on madder. After mixing a large proportion of madder in the food of a young pig about six weeks old, for a period of three weeks, the animal was destroyed, and the teeth, on examination, were found deeply coloured. A section shewed that the dentine of the pulp cavity, as well as the cement of the surface of the fang, had been equally affected with the osseous tissue of the skeleton. But I could not discover that the colour extended further in the tubuli than in the outer tubular tissue. Neither did the opaque line which marks the interior of the tubes, as seen by reflected light, seem coloured.

*Structure of the enamel.*

The enamel, the hardest of the dental structures, is composed of dense semi-transparent fibres, placed side by side, and closely united. Their form is an approximation to a six-sided prism, and their size tolerably uniform, being about the $\frac{1}{4600}$th of an inch in diameter. The direction taken by the enamel fibre is for the most part vertical to the surface of the dentine upon which it rests; those, therefore, which proceed from the flat surface of the crown, will rise vertically, while those from the lateral surface of the tooth will be horizontal. Where the coronal surface of the dentine is concave, the enamel fibres of the opposite sides of the concavity form with each other angles, and meet at their external ends. This juncture is frequently imperfect, and leaves a fissure, under which the dentine, being less protected from external influence than on the other parts of the crown of the tooth, is more frequently attacked by disease. The fissures on the crown of the molars are often subject to this defect of development. The ends of the enamel fibres are received into the shallow hexagonal depressions of the coronal surface of the dentine, from whence, in their course, they frequently describe curves. The direction taken by neighbouring fibres is not, however, at all times perfectly parallel; indeed, they often diverge, or cross each other at considerable angles. The curves also seem less regular than those formed by the dentinal tubes. Near the surface of the dentine, small linear interspaces not unfrequently exist between the enamel fibres. With these the terminal branches of the dentinal tubuli often communicate. When the interspaces exist in a great number, and extend to the surface of the enamel, they produce a pearly white appearance, and render the texture comparatively friable. This condition is indicative of imperfect development, and is followed by early decay in the affected teeth. The enamel fibre is not in all cases solid, but has running through the whole or part of its length an extremely minute cavity. This is best seen in newly-developed enamel, but a trace of the canal may be seen in that of adult teeth. Interposed between the individual fibres of the tissue under consideration are the remains of the membrane in which the development has taken place, and which, when hardened by the reception of earthy matter, serves to connect the fibres. This tissue, however, is not traceable except in imperfectly developed enamel, unless by the aid of acids. Transverse markings are sometimes observable upon the surface of the enamel fibres, but they are often indistinct, and their nature, though little understood, is probably connected with the development of this substance. An appearance resembling transverse lines is frequently seen in a specimen, which is traceable to the obliquity of the section, by which lines at equal distances are formed by the cut edges of the enamel fibres. The enamel in the incisors yields to chemical analysis 3·59 of organic, and 96·41 of inorganic matter.

ENAMEL.—*Molars of Adult Teeth.*

| | |
|---|---|
| Phosphate of lime, with a trace of fluate of lime . . . . | 89·82 |
| Carbonate of lime . . . . | 4·37 |
| Phosphate of magnesia . . . | 1·34 |
| Salts . . . . . | 0·88 |
| Chondrine . . . . . | 3·39 |
| Fat . . . . . | 0·20 |
| | 100.00 |

*Tooth.—Bone or Cementum.*

Where the enamel ceases to encase the dentine, the cement commences in a layer, gradually increasing in thickness to its termination at the apex of the root; though, as before stated, a very thin layer is continued over the crown of the tooth investing the enamel. Yet the amount is so small (and even this disappears so quickly after the tooth comes into use) that its existence may be regarded rather as rudimentary than as holding any importance in the human teeth*. In many animals the cement is continued over the enamel in a thick layer, and acts an important part in uniting into a solid tooth a series of lesser ones, or in filling up spaces between highly-developed tubercles, and then producing a continuous surface. The molar teeth of the elephant afford us a good example. In structure, the tooth-bone, or cement, is similar to osseous tissue, its substance being composed of minute granules closely united. Scattered through the so-formed tissue are cells from which numerous tortuous tubes proceed, the tubes themselves freely anastomosing with each other, and with those formed by neighbouring cells, by which arrangement a network of cells and tubes, permeable by fluids, is carried throughout the whole mass. When the cement exists in any quantity, it is traversed by canals for blood-vessels. I have several specimens of healthy molar teeth from the human subject, in which these canals exist. This general description of the structure is equally applicable to tooth-bone and osseous tissue. I will now confine my observation to the former. The cement, in encasing the dentine, follows the curved surfaces of the fangs, often uniting in one conical mass two or even three fangs, just as we have seen it connect many lesser teeth or denticles in one large one. The roots of the second and third lower molars, and the dens sapientia of the upper jaw, have not unfrequently three fangs thus connected (see fig. 8). Where such an union exists, the amount of cement is double, being, in fact, the two layers of the two fangs united by what seemed otherwise to have been the external surface of the

FIG. 7.

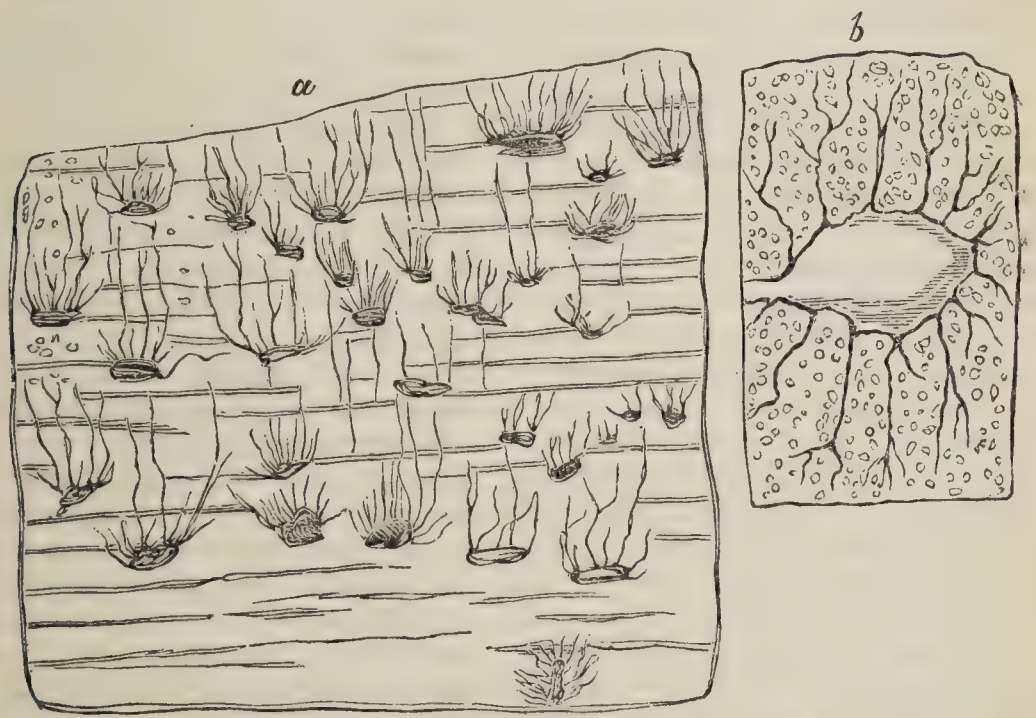


FIG. 7.—Section of cementum of the fang near the surface of the tooth, showing the cemental cells, with their branching tubes; also, the connected arrangement of the cementum. *a* Cementum; *b*, a highly magnified view of a cemental cell, and of the granular inter-cellular tissue.

FIG. 8.

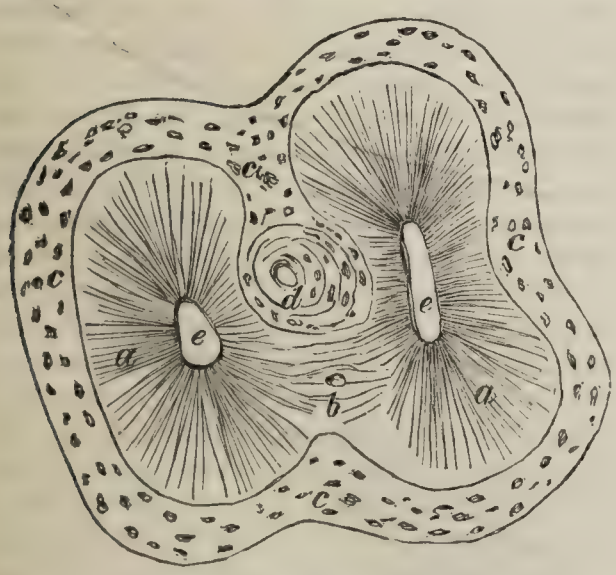


FIG. 8.—Transverse section of molar, in which the fangs were connate with an Haversian canal traversing the cementum. *a*, The dentine; *b*, vascular canal of the dentine; *c*, the cementum; *d*, Haversian canal of the cementum; E E, pulp cavity.

* Memoir read before the Medico-Chirurgical Society by Alexander Nasmyth, Esq. January 22d, 1839.

cementum. In such teeth the cement is commonly pierced by one or more canals for blood-vessels (shown in fig. 8, *d*). Upon the neck of the teeth the cement exists, but in a thin layer, and is here traversed by minute tubes only, and these, commencing on the surface, pass horizontally inwards towards the dentine; but further down the root the layer thickens, and then the cement is hollowed by cells with branching tubes, their number being in proportion to the amount of cement. If the layer of cement be further thickened, we find it provided with canals for blood-vessels. In arrangement the tooth-bone presents the appearance of lamina concentrically placed, the centre of the tooth being their common centre; or should a vascular canal exist it is surrounded by concentric lamina—in this respect resembling, in its laminated arrangement, osseous tissue. The cells are scattered through the cement with some degree of regularity, generally, though not always, following the course as though placed between the lamina.

The majority of the radiating tubes of the cells pass, either towards the surface of the tooth, or, when such exists, towards the surface of a canal for a blood-vessel. Many branches also go towards the dentine, and anastomose with the terminal branches of the dentinal tubes, while a few follow the course of the length of the tooth, anastomosing freely with tubes pursuing a like direction. Frequently, however, a cell with its tubuli resembles a tuft of moss, the tubes taking in a mass one direction only, and that towards a surface upon which blood-vessels pass. In size the cells have very little uniformity, varying from the $\frac{1}{1500}$ to the $\frac{1}{2000}$ of an inch. The form is generally oval, sometimes round, and occasionally fusiform. The traversing tubes are large at their commencement, but quickly assume a smaller diameter, which they retain to their termination. Mixed with the cemented cells I have occasionally found tubes which pass across the cement towards the surface of the tooth, and present the peculiarity of having fewer branchings, though equal in size to dentinal tubuli, and no doubt performing a similar function. Occasionally, however, the smaller tubuli of the cells enter them. Of the three dental tissues, the cement is softest and contains the largest amount of animal matter, analysis giving 29·42 of organic matter, and 70·58 of inorganic. In the teeth of lower animals, especially in the Edentata, in which enamel is absent, the cement forms a larger portion of the tooth. The cement when exposed is highly sensible to the touch, unless from any cause it has lost its vitality. When from recedence of the gum a tooth is unprotected, pressure with the nail upon the exposed surface will produce severe pain, which sometimes endures a short time after the removal of the cause.

Having described especially the dental tissues, I will now give you some account of the properties they possess in common, of their relation to each other, and of their reactions to the vascular system.

It will be recollected, that, strictly speaking, all tissues are in themselves extra-vascular, that vessels do not permeate their substance, but pass only between their fibres, lamina, or granules, whatever be the structure of the tissue. Thus, in muscles, capillaries pass in the interstices between the primitive muscular fibres; in bone they pass between the lamina; and in the brain between the tubes and granules. But we regard a tissue to be highly organised, or not, in proportion to the relative frequency or absence of capillaries and vessels in the interstices. Thus we speak of the highly organised tissue of the brain, from the vast number of capillaries which traverse at short intervals its substance; while from their absence we regard the cornea as possessing a less degree of organisation.

Taking the relative frequency of vessels in a tissue as an index of the degree of its organization, teeth will be placed near the bottom of the scale, but different grades will be given to their three component tissues.

All that seems necessary for the healthy existence of a tissue is the proximity of a vascular current; more or less close to the individual elements, according to the character of the particular tissue in question. But in tissues where frequent interspaces for vascular currents would interfere with the functions, we find in the absence of vessels special arrangement providing for the due nutrition of the part. In no instance are these arrangements more beautiful than in osseous and dental structures; for in each of these their functions require that there should be great power of mechanical resistance. In the tooth we find that the centre is hollowed in the form of an arch, in which lie free from injury the dental vessels and nerves, while the tubes and fibres of the dental substance are placed vertical to the surface of the arch, thus giving to the whole and each tube or fibre the position in which their greater power of resistance exists, and at the same time providing for the nutrition of each part by the permeability of the tubes, which passing from the vascular surface, radiate, and by their branching pass to every part of the tooth, not even excluding the enamel.

To return to the consideration of the relative degrees of organisation of the dental tissues. The cement or tooth-bone when collected in any amount is possessed of vessels, as well as with cells and radiat-

ing tubes in connexion with the vascular surfaces. To this element of the tooth we must, in accordance with the above plan, give the highest place. The dentine, possessing sometimes, though not constantly, vessels, has in all cases its tubes or capillary pores opening directly upon a vascular surface; this then must be considered as the second, while the enamel itself without vessels is only connected with a vascular surface, by the intervening dentinal tubes, and holds the third or lowest degree of organisation of the three dental tissues.

If the relative density of tissues be in proportion to the low degree of vitality, still the dental substances will hold the above arrangement. Again, if the relative sensibility of tissues be regarded as an index of their degree of vitality, still the same places must be accorded to the cement, dentine, and enamel.

It is a law of nature, that in passing from one form of organised matter to another, no sudden transition shall be made, but that the individual changes shall be so gradual as to be almost imperceptible.

This law we find beautifully exemplified in the gradual change of structure in passing from the cement to the dentine, and from the latter to the enamel.

The cement and dentine possess so many properties in common, and are often so like each other, that in some specimens it is difficult to determine to which of the two tissues the various parts belong. Thus, in the cementum, we find tubuli terminating in open mouths upon a vascular surface, such as the surface of the root of a tooth, while in the dentine we observe the presence of cells with radiating tubes: indeed, we see the dentinal tubuli themselves taking the form of cells with tubular branchings. In the tooth of the Kangaroo the two tissues are fairly mixed. Numerous vascular canals pass from the pulp cavity to the exterior of the tooth, and each canal has scattered round it cemental cells, the radiating tubes of which either pass into the canals or connect themselves with the dentinal tubes.

From the facts which I have laid before you, we are led to infer, that the dentine is but a modification of the cement; that the dentinal tubes are but elongated cemental cells, and that this elongation is necessary to enable the tooth to perform its allotted function.

In tracing the relations existing between the dentine and enamel we find the change in passing from one structure to another equally gradual.

For illustrations recourse must be had to the teeth of fish, in which the two structures very nearly resemble each other. In man the tubes send branches into the enamel, but the two structures being each highly developed present points of marked dissimilarity.

From what has already been said of the dental tissues it will be seen that the area of the tubes, of the cemental cells, and of the tubes or interspaces of the enamel, form no part of the tissues themselves, but are in fact spaces in them. These spaces we have seen are of characteristic form in each tissue, and we have considered their relations, &c. &c. It now remains to say a few words on the structural relations of the dental to other tissues. Before going to this point allow me to state in a few words the ultimate structure of osseous tissue, in order that in comparing the dental structures with each other we may understand their relations to the tissues to which they are most nearly connected.

Bone is composed of extremely minute granules closely united to each other, and so disposed as to form lamina. The lamina are concentrically arranged, the inner layer forming the parietes of a tube for the transmission of one or more vessels. Between, or in the lines of the lamina, cells of an oval, or round shape, flattened on their side, occur, from which proceed numerous minute branchings: tubes which are directed either to a vascular surface, on which to end by an open mouth, or are directed towards other tubes, with which to anastomose, thereby connecting the cells. Thus, in bone, as in the cementum, and in dentine, and indirectly in the enamel, we find a set of capillary tubes, commencing upon a surface, bathed by vascular currents, and passing into the structure, and there establish a perfect continuous network of tubes, so that a fluid may pass through the whole mass. That this arrangement is subservient to nutrition of the texture is sufficiently apparent, when we consider its relations to the vascular system, coupled with the fact, that these tubuli must be filled with fluid, even by atmospheric pressure, and that the only source of fluid is the blood.

That the tubes do contain fluid is proved by the following experiments. After removing several teeth, I carefully wiped the external surface; I broke the tooth, and removed the pulp, and made the surface dry. The fragments of dentine and cement (the enamel having been in great part broken off) were then placed in a warm room to dry, and in the course of a few hours lost one part in eight by weight, without having suffered any loss in bulk.

From these considerations it is seen that osseous and dental tissue are in the form and arrangement of their cells and tubes very closely allied, but the relations of the ultimate tissues are yet closer; for dentine and cementum, and probably enamel, are built up, like bone, of more or less spherical gra-

nules, the difference in the tissue being in the relative quantity of earthy matter with which the granules are impregnated.

Till lately but little was known upon the structure of the teeth, and that little was overlooked. Luenooke made out the dental structure to be tubular, but his observations were disregarded until * the subject was taken up by Purkinje. Professor Retzius, of Stockholm, about the same time, pursued the minute anatomy of the teeth, and with similar results to Purkinje, which were published in Stockholm in 1836. Late in the year 1837, prior to the appearance of the works either of Purkinje or Retzius in this country, I commenced the investigation of the structure of the teeth, under the impression that little or nothing was known upon the subject. The whole of my time which was not occupied on lectures, or necessary professional study (I was then a pupil at King's College), was devoted to the pursuit of dental anatomy, and in a short time I found many points, as I then thought, quite unknown. After I had exhausted the subject, so far as human teeth were concerned, and examined the teeth of all the common animals, I became acquainted with Professor Owen, who, after examining many of my preparations, and accepting a few, mentioned, in his lecture at the College of Surgeons in 1838, my researches in terms of great commendation, as having confirmed those of the continental anatomists, and in some points extended further than they. I drew up an account of my researches in a paper, entitled, "On the structure of the teeth, the vascularity of those organs, and their relation to bone, which was read before the Royal Society, June 21st, 1838, having been presented by Thomas Bell, Esq.† This was the first account written upon the structure of the teeth in this country; and, in addition to the confirmation of Purkinje's and Retzius' views, it contained several new points. The most important of these was the vascularity of the tubular structure.

At a later date, in the same year, Professor Owen read a paper on the structure of the teeth before the British Association. Shortly afterwards Mr. Nasmyth published a work on the same subject, which contained a full account of Retzius' views, together with a detail of the results of his own researches.

* De Penitiori dentium humanorum structura observationes. Breslau, 1835.

Metetamata circa dentium evolutionem. Breslau, 1835.

† Proceedings of the Royal Society, June 21st, 1838. London Medical Gazette, Feb. 16th, 1839; and July 10th, and July 31st, 1840. Lancet, July 25th, 1840. Dublin Medical Press, Aug. 19th, 1840.

## Original Communications.

### PRACTICAL OBSERVATIONS ON SOME OF THE MORE IMPORTANT SPECIAL DISEASES OF THE SKIN.*

By John Erichsen, F.R.C.S.
Lecturer on Physiology and Surgery at the Westminster Hospital.

#### *On some Local Forms of Chronic Eczema.*

The frequency of the occurrence of eczema, the variety of forms that it assumes, and the very intractable character that it frequently puts on, render its study one of peculiar interest and importance to the practitioner. And I purpose, in the following observations, to direct attention to the different forms assumed by this disease as affecting the face, the ears, the tongue, the scrotum and anus, the scalp, and the hands.

#### *Chronic Eczema of the Face.*

Eczema of the face of children usually assumes an impetiginous character, and is, as every one knows, a disease of daily occurrence; it is, however, comparatively seldom met with in the adult: and when it does make its appearance, is usually the consequence of the extension of the disease from the scalp or ears. The following case is therefore interesting as an instance of the strictly local form of this disease.

Case IV.—Susan Murray, æt. 21, a ladies' maid, came under my care on the 27th January, 1843. She is tall and slender, has fair hair, grey eyes, and a thin delicate skin; has always enjoyed very good health, and has never suffered from any cutaneous affection until this attack: there is no derangement either of the digestive or uterine organs.

She states, that about three months ago, whilst travelling outside a carriage on a very cold and windy day, she felt her face become stiff and inflamed; a number of pimples with watery heads then made their appearance about the forehead and cheeks, and since then the disease has continued without interruption, although she has been subjected to much treatment.

* Continued from page 1240 of the last Volume.

The skin of the greater part of the forehead, and of the upper part of one cheek, now presents a dry and glazed appearance, and is of a vivid red colour; it is covered by a number of thin curling furfuraceous scales, of a whitish or greyish colour, is slightly chapped in the direction of the natural wrinkles of the skin, and is occasionally bedewed with a watery exhalation. Vesicles no longer form, as in the first instance, on the parts on which the disease is most active, but they occasionally make their appearance about the circumference of the patch, where they present the true eczematous character. The affected parts feel very tense, smart and tingle much, more especially after exertion, during cold weather, or if exposed to sudden changes of temperature.

As it was of considerable importance to the patient to be cured as speedily as possible, as she had already been subjected to much treatment without deriving any benefit, and as there was no circumstance to contraindicate it, it was determined to have recourse to arsenic. I accordingly commenced by ordering three drops of the Liquor Arsenicalis three times a day, and directed that the affected part should be preserved day and night from the action of the atmosphere by covering them up with lint spread well with zinc ointment.

Feb. 13th.—Much better. The skin is softer, not so glazed, and the feeling of tension is less. The Liquor Arsenicalis was now increased to four minims for a dose, and the Unguent. Hydrarg. Precipitat. Albi was substituted for the zinc ointment, it being thought that a slight stimulant might be of service.

March 8th.—The forehead is very much better, the diseased patch being much smaller in extent, less red, does not scale, and feels much more comfortable. As the patient complains of having been thirsty, of having lost her appetite during the last few days, and of dreaming vividly at night, she was ordered to omit the arsenic, and to take some saline medicine, but to continue the ointment.

On the 14th, she resumed the Liquor Arsenicalis in three-minim doses, and continued it until the 25th, when, the disease appearing to be perfectly cured, it was discontinued.

The disease having, a few months after, returned in the same place in consequence of exposure to atmospheric changes, the patient was put on the same plan of treatment as before, and speedily recovered.

This case is interesting on account of the somewhat unusual situation of the eczematous eruption in the adult, its strictly local character, being apparently unconnected with any morbid condition of the general health, and the readiness with which it yielded to the careful administration of arsenic.

The following case forms a striking contrast with the preceding one in almost every respect except the seat of the disease.

Case V.—A gentleman, 34 years of age, from the neigbourhood of Clitheroe, consulted me, on the 20th May, 1844, for an eczematous eruption of the face, to which he had been subject from childhood. He is a good example of the sanguine temperament; has light hair, verging on red, grey eyes, an exceedingly thin delicate skin, a florid complexion, and a quick excitable pulse. Although residing in the country, leading a temperate life, and much addicted to field sports, he suffers from almost constant irritative dyspepsia, with occasional attacks of pyrosis, the mucous membranes appearing to be as irritable as the skin; the tongue is red at the tip and edges, though somewhat coated in the centre, and the bowels are frequently relaxed.

The skin of the face, especially that covering the cheeks, lips, and skin, is red, irritable, and hot. There is a feeling of tension, dryness, and stiffness about it, and it readily flushes after exertion or meals, and on exposure to the wind. The cheeks, lips, and skin, were, when I saw him, covered with thin, peeling, furfuraceous scales, of a whitish-grey colour; but occasionally, under the influence of any cause of irritation, they become the seat of a watery exudation, which, on drying, formed thicker and more laminated incrustations, adding greatly to the distress and discomfort. He likewise suffers occasionally from an attack of eczema about the extremities, especially on the fore-arms.

The patient was ordered to apply the Unguent. Hydrarg. Precipitat. Albi to the affected parts every night, to take five grains of Plummer's pill every second night, effervescing saline

draughts twice a day, in order to allay the irritability of the stomach, and as soon as this was accomplished, was put on a course of the Harrowgate waters. He was, at the same time, directed to observe a very strict diet, avoiding all stimuli, whether solid or liquid: to this he adhered most rigidly. He continued the waters without intermission until the early part of last summer—more than twelve months from the time he commenced taking them, when he omitted them, having had no return of the disease for several months. He still continues perfectly free from it, and states that he is in better general health than he ever recollects to have enjoyed.

In this case the disease appeared to be dependent on irritation of the tegumentary and mucous surfaces, and has been checked, and in all probability cured, by attention to this condition, by carefully regulating the diet, and by the use of one of the most efficient remedies that we possess in affections of this class—the Harrowgate waters.

In a case of this description occurring in an individual of an irritable temperament, arsenic, cantharides, or other remedies of this class, would infallibly have aggravated the disease: and most benefit will result from carefully regulating the general health; from strict attention to dietetic means, and the avoidance of all stimulating or heating articles of food, and perseverance in the use of the natural or artificial sulphureous waters.

### *Chronic Eczema of the Ears.*

This disease, which is a very frequent complication of eczema of the scalp, is a most obstinate, troublesome, and painful affection, and one that is very apt, when occurring in the adult, to fall into a chronic and intractable condition. The ears, when attacked by eczema, become exceedingly red, tense, hot, and shining; a number of small vesicles then appear, which contain a clear transparent serum, of a reddish or pale yellow colour; when these give way, the fluid that is effused forms thin scabs or scales, which are usually cracked in all directions, and which are frequently curled up or project from the surface of the skin. If the disease continue, the pinna attains a very large size, becoming hypertrophied, and often fissured; sometimes, indeed, the swelling goes on to such an extent as to block up the external meatus, giving rise to temporary deafness. In this form the disease may either pass into a chronic condition, continuing for an indefinite period, or else, if proper means be adopted, it may be cut short, and speedily get well.

When the disease is on the decline, all fresh eruption of vesicles ceases, the discharge gradually lessens, the scabs which are formed fall off, and are either replaced by some that are thinner, more scaly and lamellated, or else are not reproduced at all, leaving the cutis exposed, red, and glistening, on which thin scales of epidermis are gradually deposited, and which, in time, acquires a natural appearance.

Eczema of the ears occurring in children as a consequence of the same affection of the scalp, is usually very readily cured by simple treatment. It is when attacking persons after the age of puberty, and especially young females from 15 to 25 years of age, or women at the critical period of life, that it is so obstinate and rebellious a complaint. When occurring at these periods, it is usually unconnected with any eczematous affection on the scalp or on any other part of the body, except about the temporal or mastoidean regions, as an extension of the disease from its primary seat, the ears; and it almost always, if not invariably, occurs in a symmetrical manner, affecting both ears at the same time, though not always to the same extent or degree. Eczema of the ears, when occurring in the adult, is most commonly met with in the female, and is, in many instances, connected wtih irregular menstruation. On looking over the notes of seven cases of eczema confined to this situation, and occurring in adults, I find that in two cases the menstrual function had ceased entirely, the ages of the patients being 52 and 69 years. In four cases there was more or less irregularity in the performance of this function, the patients' ages being 21, 22, 24, and 27 years; and in one case only, that of a woman 38 years of age, did the uterus act properly and regularly. That the menstrual function exercises some influence on eczema of the ears is evident from the fact of the disease being worse at the periods at which the uterus

ought to act. This fact, which was well marked in the following case, I have had occasion to observe in other patients who have been under my care for the same affection.

M. S., æt. 21, came under my care on the 13th February 1844. She is of moderate conformation, with grey eyes and auburn hair. Has enjoyed good health until the last year, during the whole of which she has menstruated very irregularly, occasionally passing two months or more without menstruating. Has been affected with eczema of the ears for six months, but can asssign no cause for it.

Both ears were found, on examination, to be affected nearly to an equal degree. They are red, glazed, much swollen and chapped, are covered with thin, flimsy, scaly incrustations, from under which a serous fluid occasionally oozes, and are very hot and tense. The integuments of the mastoid, temporal, and parotidean regions are likewise involved, being inflamed and covered with thin furfuraceous laminæ. The patient states that the disease is invariably worse at the periods at which she ought to menstruate, whether she does so or not, and becomes better after that evacuation has taken place, which has not now been the case for seven weeks.

She was ordered to apply bread and water poultices to the ears every night, to cover them up in rags spread with zinc ointment during the day; to take ten grains of the Pil. Aloes c. Myrrha every second night at bed-time, to abstain from all stimulants, and to adhere as strictly as possible to a milk diet. The ordinary means, such as mustard and water to the feet, &c., have been likewise directed to be adopted for re-establishing the menstrual function, and were attended with success in the course of a week.

At the end of a fortnight she was much better, the ears were less tense, and not so red or swollen. She was now ordered to apply an ointment composed of equal parts of the Ceratum Plumbi Comp. and zinc ointment, and to take five minims of Tincture of Cantharides, and thirty of Liquor Potassæ twice a-day. This plan of treatment was continued until the end of April when she was perfectly cured, the ears presenting their normal appearance, and having lost entirely their hypertrophied condition.

The treatment of chronic eczema of the ears occurring in the adult is to be conducted on the same principles that guide us in the treatment of this disease occurring in other parts of the body. Any irritation that may exist must be subdued by means of poultices and fomentations; if necessary, a few leeches might be applied. The zinc ointment, or the Unguent. or Ceratum Plumbi Comp. or the Ceratum Cretæ Comp. diluted with elder-flower ointment, will be found the most eligible applications when a very mild astringent is required.

The general treatment must be conducted in reference to the condition of the system. If there be any disorder of the digestive organs, or uterus, that must first of all be remedied. If none exist, or after its removal, it will be necessary to have recourse to those means that are generally iound to succeed in cases of chronic eczema, such as the dilute nitric, or nitro-muriatic acids, the Tincture of Cantharides (especially when there is amenorrhœa), either alone or in combination with the Liquor Potassæ, or the arsenical solution.

Owing to the very rebellious nature of the form of eczema now under consideration, it will often be necessary to have recourse to the last-named remedy. which will, if properly administered, and with those precautions that I formerly pointed out*, most generally succeed. I have at present under my care a case of chronic eczema of the ears of the kind just described, which, after resisting all other remedies, is rapidly yielding to the administration of Fowler's Solution. Many writers recommend the employment of lint to keep the meatus auditorius externus open; this I do not think is ever necessary, any obstruction that may have been occasioned by the swelling of these parts subsiding as the disease is cured, and no chance of permanent occlusion ever existing.

### *Eczema of the Tongue and inside of the Mouth.*

Eczema of the tongue, and of the mucous membrane lining the interior of the mouth, is a very rare variety of the disease. The following case will

* Vide Med. Gaz. 1843-44.

illustrate its general symptoms and progress more clearly than any mere formal description of it could.

Eliza Elsely, æt. 27, came under my care on the 25th March, 1844. Is short, rather stout, pale, with brown hair and grey eyes. She states, that she has for several years been subject to attacks of eczema, most generally affecting the arms, the hands, the elbows, and the axillæ. These attacks of the disease are usually cured by the employment of saline aperients, and the application of simple ointment. She is now free from the disease about the body, and is in a tolerably good state of health, her digestive and uterine functions being properly performed.

About three months ago, shortly after the disappearance of one of the attacks of eczema of the body to which she is liable, she noticed a number of vesicles on the tongue and the inside of the lips, which parts soon became excoriated, swollen, and excessively tender, so much so as to prevent her taking any but the mildest food.

On examination, the tongue appears to be much swollen, and presents a tuberculated or soft warty appearance, the surface being of a greyish or purplish colour, uneven, and glazed; vesicles occasionally form upon it, which soon give way, leaving small excoriations. The mucous membrane lining the inside of the lips is also thickened, soft, and of a bluish leaden tint, with small excoriations and fissures towards the angles of the mouth. There is a considerable serous or watery discharge from the inside of the mouth. which is very annoying to the patient, and resembles a mild salivation; she has, however, never taken any mercury.

She was ordered occasional saline aperients, with the dilute nitric acid in 3ss. doses twice a-day, a blister behind the angles of the jaw, and a liniment of one part of Balsam of Peru to two parts of yolk of egg, to apply night and morning to the affected parts. This plan of treatment was continued until the 10th of April, when, as she was not much better, the Nitric Acid was omitted, and she was ordered three minims of the Liquor Arsenicalis twice a-day. After a week, this was increased to three minims three times a day, the blisters were kept open, and the Balsam of Peru was continued as before. Under this plan of treatment she gradually improved, the swelling of the tongue, and the watery discharge, diminishing considerably. As I lost sight of her, however, before she was perfectly cured, I cannot speak with confidence of the ultimate result, which, however, was most probably a favourable one.

In this case the disease of the tongue and mucous membrane of the mouth appeared clearly to follow the suppression or the cure of the same affection on the arms and trunk; and the treatment would, in all probability, have been more speedily successful if the blisters had been applied to the former seat of the disease instead of below the jaw. Under any circumstances, however, the case is an interesting one, as affording a good instance of a rare local form of eczema.

[To be continued.]

## ON THE DETECTION OF BLOOD-STAINS.

BY M. ORFILA.

The number of the *Annales d'Hygiène* for July contains a memoir by M. Orfila on the subject of a new process, recommended by M. Persoz, of Strasburg, for detecting blood-stains. It consists in the employment of hypochlorous acid. As a solvent, this acid, according to M. Persoz, at once destroys all stains, except those formed by rust or by blood, which are rendered of a brownish black colour on contact with the acid. He observes, that it is especially important to make use of hypochlorous acid as a test, because it frequently happens that blood-stains found on tissues have lost the property of dissolving in water, and cannot therefore be detected by this means. Shortly after this communication by M. Persoz, two chemists of Bordeaux, engaged in a medico-legal inquiry, tried this new process by Orfila's advice; but they observed that the blood-stains behaved differently according as they were formed directly by a jet of blood thrown on to the cloth, or were produced only by contact with an object smeared with blood and still moist; for whilst in the first case the stains speedily became brown on the addition of hypochlorous acid, then turned a little pale, and remained undestroyed even after several hours' maceration, the stains mediately or secondarily produced, soon disappeared, though only partially so. The threads of the weft were more prominent than those of the warp, and thus having by their contact with the blooded substance imbibed more of the sanguineous fluid, assumed and preserved a brownish tint, whilst the threads of the warp alone were quite

discoloured. After repeating these experiments several times, these chemists concluded that stains directly, and those indirectly or secondarily produced, behave in two different ways—a fact which is important, and has not been hitherto noticed. Such being the case, M. Orfila undertook a series of experiments on the subject, with the intention of determining, by direct experiment, the action of hypochlorous acid on blood-stains.

The following are the conclusions at which he has arrived. 1. Of all the methods hitherto proposed for the purpose of detecting and distinguishing blood-stains, that which consists in treating these stains with water, and then acting on the solution obtained, is undoubtedly the best. M. Persoz is wrong in saying that the spots of blood found on tissues, frequently lose the property of dissolving, and are therefore undetectable by this means. 2. Hypochlorous acid does not possess the advantages which have been attributed to it. Spots of blood, whether thin or thick, recent or old, disappear entirely, or almost entirely, after immersion for a short time in hypochlorous acid. If any of these do not completely disappear, they do not become of a reddish-brown colour, but only leave a greyish tint, with occasionally a brown shade in their centre. Stains made on linen cloth with fatty matters, madder, the colouring principle of alkanet root, &c. are acted on by hypochlorous acid in an almost similar manner. 3. Nevertheless, even if hypochlorous acid be insufficient to determine positively that a given stain is formed by blood, yet it may be employed with advantage as an accessory means, provided it be only kept in contact with the stain during one or two minutes at the most—a time which is not sufficient for it to cause blood to disappear, although it is for the other colouring matters. 4. It is inefficacious as a means for distinguishing thick spots of blood on iron, from those produced by rust or by the mixture of fatty substances and coleoathar (sesquioxyde of iron). Orfila confirms the observations of the Bordeaux chemists respecting the directly and indirectly formed spots of blood behaving differently towards this test.

[Remarks.—We have no hesitation in stating, from the results of experiments, that digestion in water, with the action of the usual re-agents, is the best method of testing stains of blood. In spots on thick and coarse linen stuffs, the material must be soaked for some hours. In spots on silk and fine linen, an aqueous solution of hæmatozine is commonly obtained in a few minutes. Hypochlorous acid is an unnecessary addition to these tests.—Ed. Gaz.]

ON THE APPLICATION OF

## GALVANISM IN A CASE OF ACCIDENTAL HÆMORRHAGE.

By Thomas Radford, M.D.
Consulting Physician to the Manchester Lying-in Hospital.

I was requested to visit Mrs. H., who had bespoke my attendance in her ensuing labour. Upon my arrival I found she had been out, and had met with a considerable fright, which led to a discharge of blood from the uterus. She was eight months advanced in pregnancy. There was no pain. The pulse was frequent. The skin was warm. She stated that she had felt the child move since her fright, of the truth of which I was satisfied by placing my hand over the uterus. By a vaginal examination the os uteri was found closed and rigid. I now directed an abdominal bandage to be put on, and cloths wet with cold vinegar and water to be applied to the lower part of the belly and pudendum. Perfect rest in the recumbent position was enjoined. An acidulated mixture was prescribed, and cold beverages were ordered to be freely drank. This plan was diligently followed for four hours, but without any abatement of the bleeding; on the contrary, it had continued to increase, and had now become so profuse as to require the adoption of other means. There was still no pain, and the uterus felt flacid to the hand when placed over it. Under these circumstances I durst not venture to use the plug, as this practice would only lead to an accumulation of blood internally, and I therefore determined to rupture the membranes I now passed through the os uteri an old male catheter (which I straightened and have frequently used for the same purpose) and pierced the membranes. The liquor amnii now flowed through the instrument, which was retained in order to ensure a complete discharge of this fluid. During this time friction was briskly applied over the uterus, but without exciting its contraction. Cold vinegar and water was made use of, but the discharge remained unabated. The os uteri still continuing rigid and undilated, precluded the chance of delivery, unless it was attempted with the certainty of organic mischief being pro-

duced. Under these circumstances I determined on the application of galvanism, and therefore sent for my apparatus. When it had arrived and was made ready for use, the lever regulating the intensity of power was placed at the middle point. I now passed the vaginal conductor to the anterior edge of the os uteri—having first placed the other over the fundus, and which was held by an assistant, The circle was now completed, and the patient immediately complained that I was cutting her. The abdominal conductor was removed and reapplied on different parts of the fundus; and so also was the vaginal one changed so as to act through every part, as far as possible, of the long axis of the uterus. From the moment that the circle was complete, uterine pain was excited; and a bearing-down effort was produced. These effects were observed to be more or less intense according to the length of time the conductors were allowed to remain applied. The uterus was felt to be tonically contracted during the intervals, and this effect was observed to be increased after each temporary action induced by the application of the connection rod.

This plan was continued at intervals for half an hour. I now withdrew the vaginal conductor, and placed a common conductor externally on each side of the uterus, so as to pass the galvanic current in a transverse and oblique direction. In doing so I moved them from the upper to the lower part of the organ, taking care to have each placed in such a manner that every portion of the uterine tissue (as far as possible) was subjected to the influence of this remedy.

From the time that the uterus began to contract the flooding abated, and soon altogether ceased. The os uteri also began to soften, and gradually yielded, so that at the end of six hours it was so far dilated as to allow the head of the child to pass through it. The child was born alive. The placenta was also expelled without further assistance. There was no further flooding. The uterus was found firmly contracted.

Remarks.—The power of galvanism to excite the uterine fibre to contract was admirably shewn in the foregoing case. It not only originated the temporary contraction of the uterus, but also produced such a lasting impression upon this organ, that the pains continued to occur (if any way different from those which accompany its normal action in being more energetic), until the labour was completed. The value of the tonic contraction of the uterus in arresting bleeding is well known to the practical obstetrician; and, as I have elsewhere observed, this favourable condition of the organ is increased in degree after each application of the galvanism.

When we employ this agent we should take care not to continue it too long, but interrupt the connection, so as to allow the uterus intervals of rest, and thus as nearly as possible to imitate nature's operations.

It sometimes happens that our usual means fail to produce the effects we desire; and although cases of this kind are exceptions, yet they are sufficiently numerous, and also of such a dangerous character, as to demand, on the part of the obstetrician, an inquiry whether some other plan can be adopted to place the patients in a state of safety. The truth of the above statement, in cases of accidental hemorrhage, is proved by the great discrepancy in the opinions of different writers as to the proper treatment to be adopted. One class recommend the membranes to be ruptured according to Puza's plan, and they assert that reliance may invariably be placed on this practice as an infallible means of arresting the discharge.

Another class recommend delivery (as a primary operation) as soon as it can be safely performed. They think that rupturing the membranes will frequently fail to fulfil the indications intended; and that afterwards, when the relative local condition of the patient is unfavourably altered, it will become necessary to turn and extract the child, and thus render the operation more dangerous to the patient and more difficult to the operator. The different views entertained by these writers (all of whom are men of the highest reputation) upon a subject of such vital importance, clearly prove that sometimes the one plan and sometimes the other may be advantageously adopted. My experience tends to corroborate this conclusion, and I am of opinion that rupturing the membranes will not invariably succeed in arresting

the bleeding, and indeed the case above detailed is an example of the truth of this assertion. In the course of my practice I have met with many others where I have been disappoointed in the results, and have been compelled to have recourse to delivery. It is, then, in such instances as these, that we can with such certainty of success bring into use this most powerful agent—galvanism, to supersede the necessity of proceeding to undertake an operation which, when ultimately undertaken, is always attended with more or less danger to the patient, and of difficulty to the operator.

There is also a contingent organic rigidity of the os, and an undeveloped state of the cervix ulteri, which renders delivery either impossible or dangerous, or at least very hazardous. We meet with cases in which it is quite impossible to introduce two or three fingers through the os uteri without lacerating this part, and if the hand is forced through, however cautiously done, the mischief must be considerably increased; but the danger does not end here; for when the child is turned, and its more bulky parts brought rapidly (as is too frequently done) to pass through this opening, contusion and laceration to a greater or less extent must inevitably occur.

Are we warranted, then, to incur the risks of delivery, in such cases, in order to conform to preconceived notions, or at most only obtain an apparent immediate advantage? Do we not possess other remedial means capable of placing our patient in a state of security until the parts assume a more favourable condition for delivery? Most certainly we do—the plug in some cases, and galvanism in others.

There is a dogma extant amongst writers and practitioners, which has a baneful tendency if followed, and leads to disappointment to the practitioner and danger to the patient. This I have adverted to in my lecture on galvanism, and in the following words:—I now refer particularly to that assertion of certain writers, who say, that by the evacuation of blood, the soft parts become so weakened and dilatable, that delivery can always be accomplished.....The os uteri will continue *undilatable*, although the woman may be in such a state of exhaustion as to be literally tottering on the brink of the grave! It is true that this state of matters does not generally exist, but it is too frequent to be overlooked in determining our line of practice."—*Prov. Med. and Surg. Journal.*

If these remarks wanted further corroboration than my own practice furnishes, I have the opportunity of bringing forward the testimony of one of the most worthy and practical obstetricians of our time, whose virtues stand acknowledged, and whose practical experience is unrivalled: I mean Dr. Merriman. This opinion was conveyed to me in a private letter, after he had read my lecture.

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### MEDICAL STATISTICS.

[The Kinrosshire Medical Association has addressed the following list of queries to the practitioners of the district. We willingly give them insertion, and trust that the example set by this Association will be followed in other quarters.—Ed. Gaz.]

1. What diseases, usually considered to be epidemic, have come under your notice, from April, 1845, to April, 1846, and during what months have these prevailed? 2. What diseases, apparently epidemic, yet not generally acknowledged such, have prevailed in your district, within the periods referred to? 3. Can the origin of any of the diseases be traced to local or general causes? 4. Have any of these epidemics appeared to be contagious? 5. Have any cases of diseases, admitted to be epidemic and contagious, occurred sporadically? 6. What peculiarities of extent, specific character, and malignity, have marked these epidemics? 7. Have any local causes aided their progress or increased their virulence? 8. What meteorological peculiarities have prevailed at the same time? 9. How many cases have occurred, and what proportion have been fatal in each of these epidemics? 10. What prophylactic or pharmaceutical agents have appeared to you most beneficial in modifying the nature or arresting the progress of particular epidemics? 11. Have you any facts of importance to communicate not included in the foregoing queries, either in reference to the current year, or your experience in former years?

### MEDICAL APPOINTMENTS.

At a Special Court held at St. George's Hospital, December 19th, Dr. Page was elected physician, *vice* Dr. Macleod resigned; and Dr. Bence Jones Assistant-physician, *vice* Dr. Page.

## THE SCOTCH EPIDEMIC FEVER OF 1843-4.

By JOHN RICHARD WARDELL, M.D., Ed.,
Late President of the Royal Physical and Hunterian Medical Societies, Edinburgh; &c. &c.

PRELIMINARY REMARKS.—Febrile diseases have ever been regarded amongst the most formidable affections with which mankind are afflicted. From the remotest periods of antiquity, the writers of every age have noticed their ravages, and with the medical philosopher they claim a most important share of attention– so various are the doctrines respecting many essential particulars connected with idiopathic fever. From the time of Hippocrates to our own, physicians have ever and anon put forth some new theories and opinions, which promised to elucidate its study and render its treatment more certain and successful. Hippocrates imagined fever to originate in a salutary effort on the part of nature to unload the body of some noxious matter which it had imbibed. Stahl, also, though with some modification, espoused the same theory. Boerhave entertained a notion that the cause was attributable to a morbid tentor of the blood. Hoffman believed that it consisted in a diminished energy of the nervous system. Cullen, who was inclined to the views of the latter, contended for the proximate cause being in a spasmodic contraction of the extreme vessels. Daison supposed that the acquired poisons first produced a general quiescence in the arterial system, and that the subsequent heat was an exertion of the sensorial power consequent upon accumulated irritability; and Dr. Wilson Philip says that the cause of fever is owing to a debility of the capillaries, consequently an inordinate distension of them. Each of these theories, however, have been objected to, and cogent reasons asserted in support of opposed opinions; yet amid all the confliction of arguments from time to time advanced, no positive demonstration has yet been given, to settle a subject so long under disputation and involved in so much mystery. Broussais and other French pathologists have assigned its seat to the mucous membrane of the alimentary canal; and contest that the various phenomena observed, are but so many symptoms incident upon such affection. The followers of that doctrine, however, are undoubtedly erroneous in their views, and mistake for cause that which in reality is merely effect. The fevers of almost every country, from causes it may be that are inscrutable, as well as those which are acknowledged, present varieties in their action and general features; in one part they may have a disposition to take on the inflammatory type, in another to run into the adynamic state, and so on. From whatever common cause fever may be produced, it is certain that it undergoes very great modifications from external circumstances and personal peculiarities, in every locality some difference being discernible, as to its nature and mode of affection. In cold climates typhus is said to prevail in the greatest degree, and in tropical regions intermittents and remittents. Certain districts, even in the same country, variously favour their propagation, while the moral and social as well as the physical conditions of the people, exert an undoubted influence. When there occurs a combination of certain states accounted as highly favourable to the generation of fever, as the seasons, the weather, miasmatous poisons, deficiency of food, moral calamities, &c., and a number of people simultaneously become affected, it is then said to be epidemic, and if the mortality be very great it is called a pestilence. Visitations of this description have ever been regarded with fearful apprehensions, their results having been occasionally of the most calamitous nature, whole countries and communities being affected, and producing the most appalling scenes of misery and distress; the histories of nations present too many corroborations of the remark, and afford the most melancholy records which such ravages have produced.

It seldom happens that two epidemics, even in the same district and amid the same set of people, present an exactly similar train of symptoms; at one time certain organs and tissues become affected, which at another have a comparative immunity. The epidemic raging in Edinburgh during the years 1817-20, which was described by Dr. Welsh,* manifested a great

* Welsh on Bloodletting in Fever.

tendency to take on inflammatory action; hence the almost invariable practice of blood-letting, which, according to that author, was an indispensable mode of treatment. In more recent febrile attacks noticed in that city, the mortality has been much higher, and the fever assumed more of the adynamic type. The mortality of the epidemic 1817-20, was 1 in 25 or 30; in that of 1826-7, 1 in 10.33; in 1837, 1 in 10; and in that of 1838, 1 in 6.27. In the fever about to be treated of, I shall endeavour to prove that it presented peculiarities rendering it wholly unlike any form of continued fever hitherto known. That it was not typhus nor synochus, the most usual kinds of fever observed in Edinburgh and other large towns in Scotland, future statements will evidently attest. Some of its phenomena favoured the supposition that it presented certain intermittent properties, as shown by the frequent biliary derangement and the almost universality of relapses. (Tables 5, 6, 8, 9, and 10). Its resolution was nearly always by a well-marked diaphoresis, often copious, and coming on generally about the seventh but never later than the ninth day after its accession. (Tables 5, 6, and 9). The mortality was by no means high, the sequels were of an unusual kind; great general debility was present; a peculiar eruption resembling small ecchymoses or flea-bites often were noticed, with other anomalies rendering it of so novel a character as to almost warrant the appellation of *Nova Pestis*. Sydenham, who, as a high authority and philosophic observer regarding epidemic diseases, is perhaps most worthy of respect since the days of Hippocrates, remarked that these diseases were generally *most severe and fatal at the onset, that the treatment necessary at the beginning was quite inapplicable at the decline of the attack, and that, in the course of time, they as it were wore themselves out.* In the epidemic of 1843-4, the foregoing statements by no means hold good, as it will be shown that the essential characters of the distemper were very nearly the same at its close as at the commencement. Again, these visitations will sometimes gradually change their type; for instance, remittents becoming of the continued form, intermittents turning into remittents, and so on; the disorder in question, as insisted upon, maintained throughout its duration a uniform character. Thucydides, in his time, observed that during the existence of a pestilence other kinds of epidemic diseases were scarcely ever seen; Table 4 in a great measure proves this assertion, for out of 330 cases of fever at one time in the Edinburgh fever hospitals, only 10 of that number, being 1 in 33 of the aggregate, were of the genuine typhus, so that it appears two epidemics are seldom co-existent, and "while the tyrant disease is prevailing it usurps complete dominion, and suffers no other disease to appear of an epidemic character."

Those variations which epidemics present, have been said to be produced by important dissimilarities in those external conditions and other states, accounted as favourable to their propagation; nor is it more improbable to suppose that poisons concerned in generating fevers, by being altered in themselves, from extrinsic influences or otherwise, should be productive of varied effects upon the body, than that different medicines should produce certain actions upon certain parts—as mercurials upon the liver, narcotics upon the nervous system, some of the resinous extracts upon the urinary passages, &c.; but why those contracted poisons, or deleterious states affecting the system, should be followed by special results in their operations, and that medicines should manifest a partiality for particular localities and organs, in the body is quite inexplicable, and like many other considerations which have received the attention of philosophic inquiry, remains unknown.

To investigate the causes most predominant in the generation of a distemper like the one to be described, is of the greatest importance, in order to guard against similar occurrences in the future. There might be, it is true, essentials entering into the causation that it would defy human power to obviate, yet it is equally plausible to presume that circumstances existed, among the class of people with whom it was in a great measure restricted, that were highly favourable to its extension, and that might in some manner have been averted. Some time previous to its first appearance, numbers of the operatives and the lower

orders had been for months out of employ, and with these classes the greatest misery prevailed. The following *Table* shews that out of 150 patients, only 36 of that number, at the time they were taken ill, were in full employment; 46 were in partial work; and 68 totally out of employ; so that about three-fourths were not in the way of earning a sufficient livelihood.

TABLE I.*

| | Males. | Females. | Total. |
|---|---|---|---|
| Born in England . . . | 7 | 1 | 8 |
| Born in Scotland . . . | 19 | 48 | 67 |
| Born in Ireland . . . | 17 | 8 | 25 |
| Natives of Edinburgh . . | 15 | 35 | 50 |
| Resident 14 years in Edinburgh | 12 | 18 | 30 |
| Resident 3 years in Edinburgh . | 8 | 10 | 18 |
| Working in Edinburgh . . | 38 | 35 | 73 |
| In full work . . . . | 11 | 25 | 36 |
| In partial work . . . | 17 | 29 | 46 |
| Out of work . . . . | 29 | 39 | 68 |

Future statements as to this particular will I trust convince unprejudiced minds that the fever was very importantly connected with destitution, and, consequently, in some degree capable of prevention. There is perhaps no attack of sickness remembered that produced so much positive misery and distress amongst the lower orders in many of the large towns in Scotland as the epidemic fever of 1843-4. From the returns of the medical practitioners in Glasgow, it was estimated, previous to its entire termination, that no less than 33,000 of the inhabitants had taken the distemper; and Professor Alison informed me that, from his own calculations, between 8,000 and 9,000 had laboured under it in Edinburgh. In Paisley, Dundee, Aberdeen, Greenock, &c., the numbers were correspondingly great. In each of those places, as in the metropolis, it was almost wholly confined to the poor, being quite in accordance with the statements given of epidemic and pestilential visitations, by several authors who at various times have recorded these attacks. The ancient writers not unfrequently associate poverty and disease with one another, and consider the former as a common cause of the latter. The third visitation of the "sweating sickness," which occurred in the year 1517, during the reign of Henry VII., was accounted for in some measure by the *poverty of the people*, it being stated that "among the lower classes the deaths were innumerable.* Referring to the same, another says, "of the common sort they were numberless that perished."† Dr. Mead asserts, "it has never been known when the plague did not begin amongst the poor."‡ Also Salvaresa, who wrote on the epidemic fever of 1754, at Cadiz, remarks, "amongst the poor it was most violent."§ Amid the poverty-stricken homes of the lower orders, are generally to be found in the greatest abundance those conditions which are calculated to generate disease. Their residences are generally in the most unhealthy localities of the cities or large towns in which they chance to live; the buildings that they inhabit are constructed with little or no regard to the natural laws, but with every reference to emolument on the part of some sordid proprietor; they are huddled together in confined apartments, which are ill-ventilated, and rendered impure by a redundancy of occupants; add to these the frequent accumulations of filth found in the vicinity of their houses, an insufficient supply of food and clothes, together with the want of cleanliness and domestic comforts, and too correct a picture will be drawn of the real condition of many thousands of the poor in this country. There were, comparatively speaking, but few instances of fever in the new town of Edinburgh, and those which did occur were in the back streets and similar places. Table No. 7 shews that out of 80 cases, which were taken promiscuously, no less than 66, being nearly seven-eights of the aggregate, came from the Cowgate, Canongate, Grassmarket, West-port, and various wynds, the most humid, impure, and pent-up localities in the old town, the inhabitants of which are the most miserable and destitute set in the whole city.

In treating upon the subject at issue, such will be done as follows:—

* This Table gives particulars respecting 150 cases of epidemic fever in the hospital, during the month of August, 1843.

* Hecker, on the Epidemics of the Middle Ages, p. 209.
† Godwin, p. 23. ‡ Dr. Mead.
§ Dr. Mc. Lean.

1st. Some general observations on epidemics, also shewing that certain of the acknowledged states favourable to their propagation were present in this distemper.

2ndly. Its history.

3rdly. The pathology of the disease.

4thly. The sequelæ.

5thly. The treatment.

Lastly, conclusive remarks.

In so doing the chief statements advanced will be founded on the facts contained in original data, the writer being for many months in daily communication with patients labouring under the disease. The statistical tables, which give important particulars respecting nearly 1100 cases, were compiled with the greatest accuracy and care. There may perhaps be certain points passed over which other writers have noticed, yet it is trusted that the most essential diagnostic marks, as well as an investigation into those causes which seemed to be condusive to its development and extension, together with other details, will be fully and sufficiently embraced in the account. Facts are the only means whereby we can arrive at positive conclusions, and the relation of such must ever take precedence of speculative notions and theoretical opinions, though pronounced by the most undoubted and respectable authorities.

1*st. Some general observations on epidemics, also shewing that certain of the acknowledged states favourable to their propagation were present in this distemper.*

The definition to be given of an epidemic disease may be as follows: it is generally a febrile disorder, or of acute character, prevailing at irregular periods, varying in intensity, continuing for an uncertain time, attacking a number of people simultaneously, and depending upon some common cause At one epoch or another every portion of the globe of which history narrates has been subjected to these calamities, and from the remotest periods of antiquity epidemic and pestilential diseases have scourged mankind. The earliest of profane writers mention these occurrences, and the sacred volume itself in numerous places, attests the same. In the great historical periods subsequent to the times of the ancient Babylonians, viz. those ages during the Persian, the Grecian, and the Roman empires, and especially by the profane writers of the two latter, these calamities are often adverted to; Homer, Thucydides, Herodotus, Livy, Lucretius, Pliny, Plutarch, Ovid, Virgil, and other of the ancients, make occasional references to the same. Passing on several centuries to the middle ages, we have the most awful accounts of pestilential visitations. The Black Death, as it was termed, that raged in the 14th century, extended itself throughout the civilised world, and visited every country from the plains of India to the shores of Greenland, in some kingdoms sparing but a tenth of the inhabitants! In the 17th century London felt the havoc of a plague, the details of which render its history one of the most melancholy accounts upon record. In more recent times still, epidemics have manifested themselves in different countries, though less frequently and of a milder nature. Epidemic occurrences of small-pox, typhus, cholera, scarlatina, &c. have with heavy mortality from time to time taken place; but reasoning from statistical sources of information, and comparing present with former mortalities, together with their being more uncommon, and of a less severe character in modern than in ancient times, it is fair to presume that civilisation has done much, and may still do more in warding off these terrific visitations; as knowledge increases and science advances, as those natural laws by which man stands in intimate relation to external objects and conditions are more understood and obeyed, and as the discoveries and improvements which are daily made in regard to the preservation of health and the treatment of disease are rendered available, so may we hope that the time will arrive when epidemic diseases shall be almost if not altogether unknown. Previous to the great fire in London, febrile disorders were constantly affecting the people in one part of the city or another; the streets and thoroughfares were then dark, damp, and ill-ventilated; little regard was paid to cleanliness, and innumerable impurities contaminated the air; in fine, most of those conditions which enter into the epidemic constitution existed. The

conflagration, though perhaps attended with incalculable loss of property, was ultimately followed by a general good. By opening out many hitherto pent-up and noisome localities, and thus perflation of air taking place, the streets that were re-built being wider, and the dwellings more spacious, the previous unhealthy situations became comparatively salubrious, and the citizens found that those calamities were not the unavoidable executions of divine wrath, but mainly owing to their own ignorance, and the consequent infringement of the natural laws. In former times Edinburgh was annually afflicted with severe attacks of typhus; but then the generality of the people lived crowded together. The wide, airy, and commodious new town was re-built; and at that time it was no unusual thing for the refuse of the city, the garbage of the shambles, and the general accumulations of organic matters, to be deposited at every corner; whilst the want of an efficient drainage, manure heaps placed in a proximity with the dwellings, and a disregard for cleanliness and domestic comforts, together with similar causes, acted as powerful predisponents to disease.*

Respecting the influence of certain external conditions, essential in the production of an epidemic attaek, almost every author has been led to attribute an unusual degree of importance to some particular source. It would, however, be most correct to say, that epidemics spread more by a confluence of circumstances, producing when combined a common cause, than from any individual one. All causes, whether moral, social, or physical, that lower the tone of vital action, befit the body in some measure for its reception, and render it more susceptible of contracting the disease. The system during a state of positive health, may be exposed to noxious influences with impunity, that would under other circumstances (as debility and depression) render it highly accessible to any prevalent disorder: hence it is that the poorer parts of a population, who constantly labour under innumerable debilitating causes, are far more liable to become affected than their opulent neighbours. The houses of the rich are airy and spacious, and constructed more in accordance to the rules of health; their fortunate possessors have less cares, are better fed and clothed, and have a more liberal supply of the necessaries and comforts of life. During the epidemic of 1843-4, in the Scottish metropolis, it was remarked that those who lived in the houses in the bottom flats in Cowgate, Canongate, Grassmarket, High Street, &c. were by no means so commonly affected as the inmates belonging to the various stories above. Now this fact at first seems anomalous, for, *cæteris paribus*, epidemics are generally most violent in the dwellings of the ground-floor; yet, when the matter is inquired into, this apparent exception to a general rule becomes easy of explanation. The bottom houses being in more intimate proximity with the drains, sewers, and other sources from whence putrid exhalations are given off, we might reasonably suppose would be more unhealthy, and there a disorder be most prevalent, and very much more so than in the higher flats, especially when it is taken into account that many of the buildings, in the places referred to, vary from six to even ten or eleven stories high, an altitude so considerable, it might be thought, as to place them in some degree beyond miasmatous influence. The reason of this difference appears to be as follows: the occupants of the ground-floor houses are the majority of them small shopkeepers, greengrocers, pawnbrokers, victuallers, spirit-dealers, and the like, who are in tolerably easy circumstances; whilst, on the other hand, those who occupy the superincumbent strata of houses have chiefly but very narrowed means, or, what is not unfrequently the case, are in positive destitution; and the higher the ascent is made poverty increases in a corresponding ratio, the upper stories being let at a lower rent than the more convenient apartments below. This fact forms one amongst many incontrovertible arguments that the fever raged most where destitution existed; this part of the subject will, however, be more fully adverted to hereafter.

Epidemics are much influenced by endemic causes. The peculiar dispositions of any set of inhabitants, their natural inclinations to industry or inactivity, as well as many moral and physical agencies to which they are

* Combe on the Constitution of Man.

exposed, form conditions of weighty importance in rendering them more prone to any prevailing disorder. But by being repeatedly subject to such agencies, these in some measure, if not totally, lose their power, and the body in a most wonderful manner accommodates itself to existing circumstances. Those who have been accustomed to live in dry and elevated situations can seldom with impunity migrate to low and marshy districts; take the highlander from his hills to the close and humid valleys, and his health often suffers, at least until the system has suited itself to the change. The inhabitants of the tropics can bear without inconvenience, nay enjoy, a state of positive health, under conditions that must needs be highly deleterious to natives of the temperate zones. To endemic causes, then, epidemics may owe much for their various modifications. There may be certain states existing which are highly favourable to the propagation of disease, yet until the superaddition of some other element entering into the causation, the specific poison might not come into full operation, or remain wholly inert; also, where some of those conditions constituting the common cause should predominate, the disorder on becoming manifest might evince symptoms partaking most of the predominant cause. For instance, in a wet and humid district, where a particular form of fever is prevalent, it may require but heat or some atmospheric vicissitudes, an ill-fed depressed condition of the people, or some similar occurrence, to bring into positive existence a fearful epidemic; and the type which it assumed might partake most of the intermittent character, because here (in a wet and marshy district) were some of the chief causes of intermittents, while, it might be, the original disease, from whence the specific poison proceeded, possessed not previously the least symptom of the intermittent character; therefore predominating endemic causes may in some manner determine the nature of an epidemic attack. Hufeland states, that "in the north of Germany, during the seasons 1815-16, the weather was particularly wet, and the temperature low, yet the public health was very good; that intermittents and low fevers were very rare, even in marshy localities*." The reason why disease did not develop itself as might have been anticipated under such circumstances, was in all probability mainly wing to an insufficient degree of heat, or it might be other unknown causes, to constitute a state suitable to the generation of fever, it previously being mentioned, that epidemics seem *to depend more upon a combination of causes than any particular one* By way of example, supposing a given number of elementary bodies were to be placed together, and no change produced, yet on the superaddition of one or more such elementary principles a chemical action ensued, and by this a product be formed, dissimilar in all its appreciable qualities to any of the individual compounds, we should at once say such resulted from chemical laws—the laws of affinity—but how and in what manner the effect was performed, and why it required the superaddition of the last element or elements, would of course be inexplicable; and so it may be with regard to those conditions entering into the constitution of an epidemic disease.

Pickering, Yorkshire.

[To be continued.]

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### TWINS BORN AT AN INTERVAL OF TWO MONTHS.

Dr. Wildberg relates, in the *Annalen der Staatsarzneikunde* (Heft 3, 1844), a case in which a young woman 18 months married, was delivered on the 24th of March, at about the eighth month of pregnancy, of a child, which, though not fully developed, seemed likely to live. The labour was not particularly difficult, and the placenta was discharged in a quarter of an hour, by itself. The patient went on as usual, but no milk appeared in the breast, and the child was given to a nurse. During her confinement, she felt the distinct movement of another child, and the abdomen increased in size. On the 20th of May, symptoms of another labour came on, and on the same day, a full-developed and strong child was born, which was much heavier than the first: on the third day after, the breasts were much enlarged, and there was considerable fever. This was diminished by appropriate treatment, after which she had sufficient milk to suckle both children.—*American Jour. of Med. Sciences*, Oct. 1845.

* Copland's Dictionary of Practical Medicine, p. 767.

## ON MILITARY HYGIENE.

By Frederic Roberts.

Assistant-Surgeon 59th Regiment.

[Concluded from p. 1466 of last volume.]

The importance of recruiting parties spreading themselves out more equally, is evident, as it is by this only that they can bring themselves in contact with a greater and better portion of the population, who may be disposed to enlist. The plan could be carried out with very little increase in the number of parties. From the densely populated districts, where the standard of health is not so high as in the rural, and where the number of available recruits may *relatively* be more than in the latter, but is *absolutely* less, some parties may be withdrawn, and, with some few additional, may be distributed over the remaining more equally populated portions of the country. The advantages to be gained by the plan would compensate for the increased means for its adoption. Recruiting restrictedly in certain localities must lead to a greater number of rejections, than if it was done more equally. A larger sphere, then, cannot fail to produce a more eligible description of men. The proposition, further, will have for its object, not the less the improvement of the physical and moral power of the army, than the readiness and facility of its recruiting.

That recruits may be raised in remote places, where no soldiers or recruiting parties have been stationed for years, may be inferred from the experiment made by the 23d regiment a few years ago in North Wales, where, upon a single trial, a tolerable number were procured. At first there would be a difficulty, probably, in raising men in these remote places; but upon a little perseverance many would be found to take advantage of the opportunity to enlist on occasions of slackness of labour. But the chief object is, to lay a foundation for enlisting in places hitherto unprovided by recruiting parties. Until this is done, recruiting will not be successful throughout the country. Enlistments are governed as well by associations as by recklessness and choice. Young men generally wish to enlist into corps or services, where they would find acquaintances from the same part of the country. The circumstance of a young man having a friend in a particular regiment, often determines any hesitation in enlisting, and the service is readily supplied by a willing man. There would appear to be as much spirit of enterprise in the rural, (*i. e.* the inhabitants of small towns, villages, and the country, and not exclusively the agriculturist) population, as in that of large towns. Many good men come from country places into busy towns, and there enlist, merely because enlistment is in their way. Indeed, in many country places, there is as much, if not more, martial feeling among the population as in that of large towns, where young men enlist, often more from recklessness, than from any enterprising feeling. There is no doubt, that during the war men volunteered from the militia, as often from a spirit of enterprise, as from sordid love of bounty, however mercenary soldiers are said to be. In a remote part of the country known to myself, and where no soldiers are ever seen, I am aware of several instances of enlistment after leaving home for large towns, and these with provident foresight into the best branches of the service.

By extending the opportunities for enlistment, greater scope is afforded for selecting good recruits. The productiveness of recruits in the London District must greatly be attributed to this principle. In the metropolis and neighbourhood the population is less stationary than in the provinces; and here the wanderer resorts from the remotest districts. Recruits raised in and around the metropolis are probably the last brought into service—the cavalry procuring their men in great abundance from there.* The less dense the population of a given territory, the more stationary its inhabitants. To come in contact with every inhabitant, recruiting parties should be more numerous, in proportion to the population, in the rural than in the large town districts.

Recruiting more generally in the less populated districts would be attended with further good results. As education is becoming more disseminated through the country, more intelligent men can be procured. In remote

* The only officer of cavalry recruiting, is stationed in London.

places it is presumed that men have better conduct, from the greater facility afforded for observing their actions than in crowded towns, where men are not so careful of their behaviour. Although more eligible recruits, in physical points, can be raised in proportion to the number of inhabitants in rural, than in town districts, yet the inhabitant of the town, if of the required physical qualities, is always equal, and very often better, than the countryman. The majority of the inhabitants of towns are handicraftsmen, and always of more intellectual occupation than the agricultural labourer. The influence of occupation a man has been subject to before enlistment, cannot be of such a nature as to make material alteration of the frame without being observed. He will have quitted his trade too early to have suffered in physical qualities from any peculiarity of it. The quantity of labour a soldier has to undergo in time of peace and in garrison, is not such as requires much exertion. But of two men of equal natural powers, the one, the agricultural labourer, accustomed to continual hard work, will be more than the other—the artizan, unaccustomed to such employment. An army of agricultural labourers going into the field will, no doubt, last longer than one formed of artisans, provided both entered immediately on their formation, and before they have suffered from the effects of a soldier's occupation. Dr. Williams, 59th regiment, has long observed that the influence of a trade followed before enlistment is no more perceptible in the soldier, from the beginning to the end of his career, than that of agricultural labour. Artisans and agricultural labourers equally experience the depressing influence of soldiers' duties, but the latter experience, in addition, the want of *active* exercise, chiefly, however, in the infantry. Artisans, even in the very largest towns, when in full employment, are as healthy as field labourers. And although mortality is actually greater in manufacturing districts than in those where the population is chiefly employed in agriculture, it is at the same time discovered to be mainly due to inequality in the tide of occupation. The Registrar-General has sufficiently shown, that disease is generated in the country by poverty and ignorance more than by the nature of occupations. Artisans are, I am aware, condemned as generally stunted in growth, feeble in constitution, &c.; this may be very true as far as respects workmen in confined places in the large manufacturing towns, but as to its being applicable to all the artisans of large towns, is a very wrong notion. There are many strong men employed in mechanical trades in Manchester and Liverpool; and as it not the "weaver" only that is enlisted in these towns, it is not fair to denounce all the artisans as unfit to be soldiers. The argument respecting the ineligibility of artisans to become soldiers is not tenable even as regards those living in large towns; and as to those inhabiting the smaller towns it becomes a scandal. It is a hackneyed fashion, to generalize all artisans as a species of "weaver," or "penned-up artificer," a habit detrimental to the interests of recruiting, and which arises from the system of recruiting being so much restricted to manufacturing districts, where so many are brought up for examination, in proportion to the population, that rejections are very numerous, and hence the hasty conclusion that *all artisans* are deformed, emaciated, and altogether unfit for the duties of a soldier. The "*clodpate*" of the field makes an unskilful and unhappy soldier in garrison, in time of peace at least, and is not better than even the "*low, squalid mechanic*," who should always be avoided. The animal strength of the former is as soon exhausted as that of the latter under the oppressive influence of a military life, and his boasted strength cannot prevent his being replaced as often as the manufacturer.* Recruits raised in agricultural districts are often listless and heavy, have not the sprightliness of men of more intellectual occupations, raised in and near towns, and are consequently unable to resist the *depressing* powers of the service, but give way to intoxication and negligent habits. The standard of education being lower in the rustic than town population,† the amusement of reading is more often debarred the former, and recourse to the pipe and the pot is the alternative. The

* From the Statistics for the last two years, it is seen that about two-thirds of the recruits were labourers, husbandmen, and servants, and I believe this proportion has continued for many years.

† Education is becoming now, however, more general in the country.

aptitude of the common "clod" for acquiring his drill is acknowledged not to be equal to that of a handicraftsman: nor can he comprehend the good intentions of his superiors for his welfare, nor anticipate them in accomplishing designs for their mutual and public benefit. It is a common opinion, that the ploughman is a very bold and independent fellow; but to suppose that he is more obedient or moral in his conduct from any willingness, would be only to contradict the opinion; and to say that he has more fear of punishment, would be far from the truth.

The testimony of the witnesses examined before the Commissioners to inquire into the System of Military Punishment, goes in the main eminently to prove, that men of some degree of education are preferred in the cavalry and artillery. Some of the witnesses were more or less circumspect in admitting that educated townsmen were the best soldiers, but when they refused to admit them the best, they required to have intelligent countrymen. At page 157 of the Report on Military Punishments, Lieut.-Colonel Middleton states, in answer to question 3199, "there is another class of individuals also who enlist, who in many instances subsequently purchase their discharge: there are a great many of that kind, and immense sums of money are credited to the public by that." 3200, "Are such men as those more amenable to discipline?" "Yes; we find them to be of a better class of society." It is evident by this answer, that when Colonel Middleton states to question 3143, page 154, that "the agricultural labourer makes a better recruit for Cavalry purposes than the inhabitant of the town," he meant the best description of them, and surely not the mere "clod." To show how education is generally valued in recruits, a sergeant-major of the Royal Artillery says, at page 172, "that he preferred labourers to all other classes of people for the artillery, but required the 'farmers' sons' to be included." Also, that the 'best recruits' raised for the corps were in Aberdeen, and were 'very well educated and conducted."* Lieut.-Col. Lord Loughborough, in answer to question 4247, page 217, states, "that an agricultural labourer is very good, if he has been something better than a mere ploughman, but a man from behind the plough requires a long time to get him neat, and to take pride in his appearance*." Mr. Hume at page 59, says, "that he thought the East India Company's Artillery a 'very superior class,' and that he did not recollect ever attending, or seeing, the flogging of an artilleryman in camp." Lieut.-Colonel Love, 73d regiment, at page 66, says, "I think that if the condition of the soldier were ameliorated, you would then get a better class of men; at present we recruit from the dregs of the people, and it is considered by a civilian to be a disgrace to be a soldier. Do away with that, and the consequence will be that people of a better class than at present will become soldiers†." This is reasonable. We see the best men enter the cavalry and artillery, which are superior services to the infantry, however much the labour in them is talked about. The labour in these branches of the services is more rational and more congenial to the constitution, and when united with their other duties even constitutes a less artificial service. Major-General Campbell says, at page 96, "that he did not think that education had been detrimental to discipline, and that he thought the more the mind was cultivated, the fitter the man became for every station in life‡."

Numbers of eminent authors have always advocated the necessity of as much physical power in soldiers of the infantry as the cavalry and artillery; but something more than animal strength is required for each of these branches of the service; as military life, especially in the infantry, is so very artificial, men composing an army should have some intelligence to adapt themselves to it. It is not necessary that they should be learned logicians and mathematicians, but they should have intelligence enough to comprehend the common principles of personal hygiene;

* Questions and answers, 3547, 3550, 3551, 3553, 3555, and 3556.

* What is a soldier without pride? a stolid being, who cares neither for his own nor other people's interest.

† Answer to Question 924.

‡ Answer to question 1724. I must particularly mention that the majority of the witnesses examined before the Military Commissioner, were not questioned upon the subject of education; and that although some might have said that education was unnecessary to soldier, it is no unfairness not to quote their names, much less necessary to my purpose.

and I have no doubt that, if proper means were adopted, they could be easily attracted to their own welfare in this particular. Men without education at all, and without sources of amusement in barracks, are not in a situation to be noticed by their superiors for preferment; they are without opportunity of having their qualities drawn out. Men who have the knowledge of some craft are more likely to be able to read and write than ploughmen, and find more means of occupation in barracks. The mere ploughman has no resources in a garrison like Malta, Gibraltar, Corfù, and numerous others. The passiveness of a "guard" is only succeeded by *ennui* in barracks, and sought to be drowned by smoking and drinking.

The recruits in the infantry have been probably less accustomed to drinking malt and spirituous liquors than those in the cavalry and artillery. The recruits in the foot-guards are very respectable young men generally, but soon begin to drink immoderately. If there was not some peculiar cause for the development of drunkenness and other crimes in the infantry, these would arise as much in the cavalry and artillery. It is the generally superior education, the duty, which is business-like occupation, as well as the greater relative responsibility placed in the men, and the more natural and congenial mode of life, that arrests crime in the cavalry and artillery. How important then is it, in the absence of interesting occupation in the infantry service, to procure men equal in mental qualifications to those in the artillery and cavalry, to afford some means of counteracting the listlessness of infantry service. Apprehensions respecting the admission of mechanics and natives of towns into the service are without foundation. Citizens and artisans are as capable of good behaviour as agricultural labourers. Out of 88 non-commissioned officers in the 59th regiment, 45 are labourers, colliers, and servants, and the rest tradesmen and clerks.* The militia were acknowledged to be in the war time a very respectable body of men, collected by ballot uniformly throughout the country; each parish, town, and country furnishing men in proportion to the population. In the evidence taken by the Commissioners to inquire into the System of Military Punishments, are scattered opinions highly favourable to this body of men. Their conduct is mentioned to have been very excellent, and their physical capacities were still better, in reference to those of the men raised for the regular army. Among the militia-men must have been many respectable individuals, capable of reading and writing; and universal testimony goes to show that, instead of being seditious and turbulent, they were the best material for the line. The constitution of armies is so peculiar that there are seldom or never developed in its members political parties. The British army, in particular, has always been indifferent to politics, to "strike," or any lawless movements in the people; nor has it ever engendered any mutinous conduct within any branch of itself; at least any such that can be proved to result from education. An army not in *active operation to maintain it in a relatively healthy state*, must be better educated than that in the field, where soldiers more nearly support its ancient character, the Roman name of which—Exercitus, having been derived from its habits. Education, it is plain, can better be dispensed with in an army on active service than in quarters, where it requires some resource to while away the listless hour. To suppose that sufficient occupation can always be provided for the soldier, in the interim of his ordinary duties, is contrary to experience; especially in the various strange and remote stations an English soldier is doomed to serve in. The duty of an infantry soldier is so monotonous too, that he especially requires some relief from its tedium, which perpetual dull and exercise will not remove, but indeed, rather aggravate. Marshal Marmont, in his "Spirit of Military Institutions," says, "that military exercises are undoubtedly the first elements of that system, [activity,] which I am now advocating, but they are not the only ones. The soldier must first acquire a thorough knowledge of all his military duties, but

* Under the head of "Labourer," are often included men of more intellectual occupations, as apprentices, &c. In the above number of labourers there are errors to this effect, and in favour, consequently, of the argument advanced. Dr. Williams, 59th regiment, says "as his experience, that recruits try many trades before enlistment often."

when he has accomplished this, to continually occupy him with details he is perfectly acquainted with, and which can teach him nothing more, is the infallible means of disgusting him with his profession."*

In concluding this slight sketch of the subject of education in the private soldier, I may venture to say that the officers of the army generally believe that crime would decrease with intelligence and respectability; and I speak, I am sure, the sentiments of many officers who have so kindly rendered me assistance in gathering my information for this subject, when I say that these qualities would materially avert it. Education makes an important difference in the social position of the soldier: when educated and intelligent, his civil friends are selected from among the better order of the community; but when ignorant, the only acquaintances he has a chance of forming are the dissolute and outcast, who only add to his obloquy. It has been asserted, but not proved, that artisans are inferior, both in physical and moral qualities, as soldiers generally, to agricultural labourers. As far as moral qualities concern the matter, it may be mentioned, that, as half the non-commissioned officers in the 59th regiment are "mechanics" and "clerks," and if two-thirds of the army are labourers, the class of artisans would appear to supply double the number of non-commissioned officers the labouring class do, if every corps could shew the same result. Inability to read is distressing to a soldier in hospital, where, in addition to often long and frequent confinement, is added rigid discipline. Want of intelligence in a patient is, too, a painful obstacle to easy and rapid cure. Physical strength is a paramount power to prosecute war, which is a necessary evil; but when moral and intelligent conduct is added, there cannot fail to be great mitigation of its horrors.

One of the most important physical qualications to be obtained by a wider dispersion of recruiting parties, is a more mature age in recruits. The opinion of non-professional persons is well known on this subject. Napoleon condemned "boys, as serving only to encumber the hospitals and road-sides." The opinion of all thinking men is the same. Deputy Inspector-General H. Marshall says, that, "before a youth has acquired the physical and moral qualities suited to enable him to endure fatigue and to execute the duties incident to a military life, a certain age must be attained;" and that, "if a recruit do not possess the strength calculated to enable him easily to endure fatigue, and to surmount the mental disquietude incident to his initiation into the army, he loses that active fortitude which is required to fit him to bear up against difficulties, and falls into a gloomy state of mind that is soon followed by deteriorated state of health; loses his appetite, becomes emaciated, a slight cough supervenes, and, after frequent admission into hospital, he at last dies of diseased lungs. This is an outline of the history of many a young lad who enlists into the army." This is a fact which cannot have failed to make its impression upon every medical officer in the army.

Besides the advantages of more strength of body and mind acquired by age, recruits at 20 years of age will have passed over several diseases incident to youthful ages only—such as measles, small-pox, &c. Although, in civil life, mortality between the ages of 15 and 20 is less than between 20 and 30, yet in the army it is increased considerably; the mortality per cent. in the foot-guards, between 18 and 25, being 2¼; whereas the mortality in civil life, in England, between the ages of 15 and 30 (a much greater latitude), is not 1 per cent.; being only ·834*. Early enlistment prevents young men from acquiring strength to resist disease in the army; and hence the excessive mortality in the service, even at home, in great measure arises. There are numbers of lads in the ranks of the army, who have to carry nearly half their own weight. Boys weighing nine stone, and often less, carry about 52lbs. weight—the knapsack complete, arms, accoutrements, ammunition, and peronal equipment, without rations, weighing little less than this. The necessity of a more mature age in recruits is acknowledged and so strenuously advocated by all authorities upon the subject that it requires no further

* United Service Magazine, June 1845, p. 225.

* Statistical Reports of Sickness in the British Army in the United Kingdom, p. 18; and Sixth Annual Report of Registrar General, p.xxvi.

comment. By recruiting an army from between the ages of 17 and 22, a much greater number could, of course, be collected than from between the ages of 19 and 22; and, provided a young army treated on an altered system (the principles of which have in part been inculcated in former articles of this journal, and shall be continued in future ones), the objections to its formation would greatly diminish, if not altogether cease to exist.

With respect to what should be the fixed height of soldiers, I think there is a little more discrepancy of opinion. The exact meaning of authors on the subject, is, at least, difficult to be determined: some would say that tall men are most liable to disease, and that little men resist it longer; others, again, remark that a certain height is coincident with a generally healthy constitution, and *vice versâ*. Professor Lévy, physician to the French forces, says, that "the corps of the French army, which comprise the picked men, are the artillery, engineers, sappers and miners, &c.; they are selected solely because of their higher stature, the regulation height six inches (French), or nearly one-tenth above that of the infantry of the line. These select corps not only present fewer cases of sickness, and have a less proportion of deaths than the infantry, but Professor Lévy says, it is impossible to glance along the lines without being struck with the difference between the two classes of troops*." There is, no doubt, great truth in this; but, in opposition to M. Lévy's opinion, I think that the superiority of health in the artillery, engineers, &c. must greatly be attributed to the better physical condition generally of these troops, both in the French and English services, than of the infantry of the line, in which there are as many fine men as in the select corps; as, for instance, in the light and grenadier companies and regiments, and, indeed, throughout the battalion companies, especially in our service. In three regiments of infantry of the line, in Portsmouth, in May last, whose aggregate strength amounted to 2,546, 1,209 were 5 feet 8 inches and upwards; 704 were 5 feet 7 inches; and 633 were below this stature. The night duty of the infantry, with indifferent means of resisting disease, is much greater than in the artillery, &c., whose occupation in the day is much more natural, and must create a difference between these branches of the service. The foot-guards certainly present bad specimens of the effect of a military life upon tall men. But it must not be said that they fall a sacrifice to their height, but to causes incident to the service; some of which have already been set forth in articles on Military Hygiene, before published in this journal†. The subjoined interesting Return, kindly provided me by Captain Orange, staff-officer of pensioners at Halifax, may throw some light upon the influence of height on longevity and health. It shows the average age, height, &c. of the enrolled pensioners at the stations named in the Return. This Return was elicited by observing the tallness of the company of veterans at Bradford, when collected together for a week's drill. It may be mentioned that the cavalry and artillery pensioners do not increase the average height—some of them being much shorter than those of the infantry. It will be seen that the total heights of these veterans is 222, the average age rather more than 47 years and six months, and the average height a little less than 5 feet 8 inches. Allowing for the shrinking of the frame

| Station. | Cavalry. | Infantry. | Artillery. | Total. | Average Age. | Average Height. | Year. |
|---|---|---|---|---|---|---|---|
| | | | | | | Ft. Ins. | |
| Chester . . | 5 | 40 | 3 | 48 | $46\frac{1}{2}$ | 5 8 | 1844 |
| Halifax . . | 4 | 63 | 2 | 69 | $47\frac{1}{12}$ | 5 8 | 1845 |
| Bradford . | 7 | 43 | 3 | 53 | $48\frac{7}{12}$ | 5 $8\frac{1}{4}$ | 1845 |
| Burnley . . | 3 | 15 | 6 | 24 | $46\frac{8}{12}$ | 5 $7\frac{1}{2}$* | |
| Huddersfield | 2 | 23 | 3 | 28 | 49 | 5 $7\frac{1}{2}$* | |

* Brit. and Foreign Med. Review, Jan. 1845.

† See MEDICAL GAZETTE July 19th, 1844, and August 16th, 1844; articles Military Hygiene and the Clothing of Soldiers, by myself.

* Would have been thus if enrolled in May, 1845.

with age, these veterans still present a very good size; and presuming (with some right) that the average height of the army during the war was not so much as since, it may be fairly concluded that tall men live longer than short ones; or, at least, that more tall than short soldiers have arrived at the average age of 47 years and six months. What would appear to strengthen this supposition, is the circumstance of the enrolled pensioners being selected to bear arms from their superior health and strength. Whether all classes of pensioners (the enrolled included) would present a higher or lower average height than the above, I have no data to show; but it would appear that those found most fit to serve are rather tall than short. The average height of the infantry of the line of the present day, would not appear to exceed that of the veterans, who were enlisted at a period when the standard height of the army was mush lower than at present. Two regiments of infantry of the line in Portsmouth, in May last, measured a fraction less than 5 feet 8 inches. One of these was unusually tall. Proper and extended comparisons of the relative physical powers and longevity of tall and short men would be interesting, and are yet to be made. Unusually tall and very short men are further removed from the normal type than men of medium height; and selection from among the latter would be attended, on the average, with more symmetry of frame. A good frame, besides, gives a man more confidence in his own powers. Stunted men are generally supposed not to have either the animal or moral courage and steadiness of the strong, and are characterized by impatience unfashionable to firm resistance.

By a wider distribution of recruiting parties there would occur, not only a greater scope for selecting good recruits, but fewer rejections would happen, and consequently less expense would be incurred. There would result, besides, less mortality among more carefully selected soldiers, and thus enable the army to dispense with fewer supplies of reeruits. The loss of the services of those employed in recruiting would likewise be obviated. Reduction in the expenses of several departments might be looked for. The pension list, by diminishing the number of invalids (as well-selected soldiers would live and serve longer), would, in particular, undergo a reduction. To colonels of regiments, several suits of clothing would be dispensed with.

After minute inquiry, I am well convinced that men sent to recruit should be of sober and correct habits. Sober men always raise more recruits than drunken men do. This remark may appear unnecessary, when it is known that men detected drunk are suspended and sent back to their regiments. But from the nature of the service, drunkenness is often committed with impunity by recruiting parties, who cannot be always under the eye of the officer. The advantages of employing strictly sober and correct men on the recruiting service, easily suggest themselves to the practical recruiter.

A widely spread plan of recruiting would ensure a supply of good men in these kingdoms at all all times, I think. The question of limiting service to facilitate recruiting, does not come within the object of these remarks; but it may be mentioned that limiting the service, as proposed by Captain Layard, M.P., would relieve the burthen of distress a man may suffer occasionally, upon contemplating the sacrifice of his liberty for life almost; but it would not stop desertion, which is *generally* an act of momentary impulse urged by some untoward event, as is easily inferred from the very frequent re-enlistments of deserters into other corps, and from the apparent absence of contemplation, by leaving their kits behind them. Men who would maliciously desert the service altogether, would do so if their service was only five years. If men were to leave at the end of ten years, they would not care what their behaviour was, when they had no person to look forward to, which they begin to think of about the end of that time. To ensure a voluntary army in this country, there is every reason to believe that the public would ever acknowledge the boon by the exercise of every encouragement and liberality*.

The details of recruiting have not

* I am under particular obligations for information obtained for this subject to Lieut.-Col. Trevor, K. H. 59th regiment, and Adjutant Peebles; to Capts. the Lord F. Paulet, Hon. A. Graves (now of the 59th regiment), and H. W. Cumming, of the Coldstream Guards, &c. &c.

extended to Scotland and Ireland, though I believe it is more or less irregular in those countries *.

### CAUTION TO MEDICAL AUTHORS.

A LARGE number of books are annually obtained from medical authors by persons pretending to be connected with medical or other journals. The manner in which these swindlers on a small scale proceed, will be best understood by the following letter, forwarded to us by a correspondent :—

"If agreeable to Mr. —— the Editor of the ——— will feel much pleasure in reviewing his work on ———, on the receipt of a copy sent as above, carriage free for that purpose. Advertisements received on the most liberal terms."

We suppress the names, only remarking that the journal referred to, is one but little known and of very doubtful character. The letter to the author is commonly sent unpaid, although the pretended reviewer takes care to require that all communications to him must be sent *carriage free*, &c. In general an advertisement of the author's book, cut out of some well-known journal accompanies the letter, with an intimation that a very liberal allowance will be made for a succession of advertisements; and from the vast circulation (!) of the periodical, no better medium could be employed for making Mr. ——'s valuable work extensively known to the profession, &c. &c. &c."

We have one or two words to say upon this system of swlindling. Either the book is not noticed at all, or the notice is a mere puff, of which any honest author would be heartily ashamed. We wish to impress upon the minds of medical writers, that the conductors of no respectable journal ever adopt such practices; and that the mere fact of an application of this kind being made is a proof that the book only is sought for by some pseudo-literary *chevalier d'industrie*. These sharks of the press generally find an easy prey in those who appear in print for the first time. The *prestige* of authorship,—a fit of liberality, or a morbid desire for notoriety, induces the new-fledged aspirant to literary fame, to overlook the cunning and trickery of the self-styled reviewer. The correction of the practice depends on medical authors themselves: they should invariably decline to forward their works to those who thus apply for them.

* Since writing this article, I have learnt that it is in contemplation to organize a certain portion of the militia, from which volunteering is to be allowed into the line, as in former times. This will be hailed as the most material benefit ever done to the army, which will now receive into its ranks a superior set of men, without sacrificing a large portion of its strength, hitherto on the recruiting service. I cannot but feel highly gratified at this intended mode of recruiting the army, as it is upon the principles that I have advocated in these observations—*that of extending the sphere of recruiting*,—which will be effected far more perfectly than in the manner I have here suggested, if this new method is extensively practised.

*Errata in the first part of Mr. Roberts's Paper.*—At page 1459, first column, line 31, instead of "difficulty," read "differently." At page 1460, first column, line 9, after the word "circumstances," introduce, "to those which existed in generations back," and continue the sentence. At line 24, in the same column, after the word "admissions," introduce "of sick." After the word "judgment," three lines from the bottom of the second column of the same page, the sentence should continue thus; "in a state of greater exemption from control, crime is less prevalent than in the infantry, &c." At page 1466, second column, line 16, after the word "only," should be a full stop.

### ALTERATIONS OF THE MILK.

UNDER the influence of certain circumstances, the milk is subject to different alterations in its colour, consistence, and taste. For example, after nervous diseases it becomes thin, like water, or of a greenish colour. It assumes a yellowish colour in inflammations of the mammæ, a saltish and disagreeable taste in inflammatory diseases, and, lastly, a sour smell, after labour particularly. It contracts an odour like that of garlic in persons who eat that substance, a reddish colour in those who make use of madder, and, lastly, a bluish colour in women who work in indigo manufactories. To discover whether the consistence of the milk is too thin, or too thick, it is necessary merely to put a drop on one of the nails; if it adheres to it at first, and then spreads without running, it is in the natural condition; in the contrary case it is not sufficiently consistent, while it is too thick if the drop adheres to the nail without spreading. This happens generally in women who have too much *embonpoint*. In nervous women the milk is thin, not very nutritious, and subject to slight alterations after the slightest vexation. To conclude, very young and very aged women have milk of quality inferior to that of middle-aged persons. Menstruation during lactation renders the milk thin and serous. Pregnancy renders it thick and unfit for the nourishment of children. Different kinds of foods, amongst others, salt meats, highly-seasoned dishes, mealy vegetables, salad and fruits, make the milk more abundant, but thinner; spirituous liquors, late hours, excessive sleep, and all abundant excretions, diminish, on the contrary, the quantity of the fluid, the least alteration of which may have an unfavourable effect upon the child. It is, therefore, of the highest importance, on account of the latter, as soon as possible to remove these faults, which destroy a large number of children in all classes of society.—*M. Colombat on the Diseases of Females; Dr. Meig's Translation.*

# MEDICAL GAZETTE.

FRIDAY, JAN. 2, 1846.

THE preservative power of vaccination against attacks of small-pox, has of late years been seriously called in question by some eminent members of the profession, both in England and on the Continent. From the frequent appearance of small-pox in an epidemic form, and from the alleged increase in the number of vaccinated persons attacked by it, a suspicion has been entertained that the protective power of the vaccine virus is liable to wear itself out in the human system; and that it must either be restored by having recourse to re-vaccination, or to the employment of fresh virus from the cow. It is obvious that these questions are of considerable importance; the very circumstance of their becoming matters for discussion, creates a feeling of insecurity, and tends to check the progress of vaccination. In 1842, the Royal Academy of Sciences made this a subject of professional competition; and the result has been, after the lapse of three years, the completion of a Report by Magendie, Roux, Serres, and other eminent men.*

It is not our intention to enter into all the interesting details which have been thus accumulated. This would serve no useful purpose: we shall therefore proceed at once to state the conclusions drawn by the Commissioners from the documents placed before them.

1. The preservative power of the vaccine virus is perfect in the greater number of those who have been vaccinated. Among a few it appears to have only a temporary influence, but even in these exceptional cases, its power is almost unimpaired up to the age of puberty.

2. Small-pox rarely attacks those who have been vaccinated, before the age of ten or twelve years. Its occurrence appears to be most frequent at the age of thirty or thirty-five years.

3. Besides possessing a preservative power, the vaccine virus so affects the system, as to give a mild character to the symptoms of small-pox, to shorten its duration, and render it much less severe.

4. The fresh virus from the cow produces strongly marked local symptoms. Its effects appear to be more certain than those of the old virus: but when it has passed for some years through the human system, it loses this intense local action.

5. The preservative power of the vaccine virus is not in a direct relation to the local symptoms produced; but in order to retain its properties, it should be renewed as frequently as possible.

6. The only safe plan for the renewal of the virus, appears to be to take it from its original source.

7. Revaccination is the sole test for distinguishing those who are perfectly, from those who are imperfectly, protected.

8. Under ordinary circumstances, revaccination should be performed about the fourteenth year; but if small-pox were prevalent as an epidemic, it would be advisable to resort to it at an earlier period.

The most important of the conclusions in a practical point of view, are those which relate to the alleged loss of preservative power in the vaccine virus, which is said to take place in some individuals as they advance in life; and the consequent necessity for universally adopting revaccination. As these conclusions are at variance with

* The labours of the Committee may be appreciated by the fact, that thirty-five memoirs were sent in; among these were two forming three volumes in German; a third in Latin; a fourth forming a volume of 769 pages, with an atlas; and a fifth consisting of three volumes quarto!

others which have been drawn by some English authorities, it may be as well to consider the circumstances which have led to their adoption.

It appears that the competitors thought it most advisable to test the efficacy of vaccination by observing the numbers and ages of the vaccinated, who were attacked with small-pox at the time that that disease was prevailing epidemically. They made this, as it were, the touch-stone of the preservative power of the vaccine virus; and although we must regard it as a severe trial, yet owing to the circumstances being most unfavourable, it is perhaps better fitted than any other method to enable us to judge of the degree of immunity conferred by vaccination. The protective influence becomes then no longer a matter of theory, but of calculation; and if it exert any decided influence in diminishing the number of attacks, or in mitigating the characters of the disease in those cases, the necessity for the universal diffusion of vaccination among all classes of society, becomes so much the more imperative.

We prefer trusting to the authority of the reporters, for the details of the epidemics which have occurred in France, rather than of those which have occurred in England. Dr. Bousquet records the results furnished by thirty epidemics of small-pox, occurring in France, between the years 1816 and 1841. The number of persons attacked with the disease, were 10,434 of the unvaccinated, and 5,963 of the vaccinated; the fatal cases among the former were 1,682, among the latter only 62. While it thus appears that the vaccinated attacked were to the unvaccinated, as one to two or one-third, we are quite at a loss to know what proportion this bears to the vaccinated part of the French population! On this very material fact the report is defective. As we have already had occasion to state, the comparison of the number of attacks after vaccination, with those from natural small-pox, furnishes us with no useful information respecting the degree of protection afforded.*

The 1,682 cases may have really formed but a small proportion of the vaccinated population; and the virus may still, under these circumstances, have possessed all the protective influence which could have been reasonably anticipated. Owing to the absence of information on this vital point, we are not in a position to judge whether the number of the vaccinated attacked during the prevalence of these epidemics, were or were not in an unusual proportion to those attacked at other periods. This defect has not entirely escaped the notice of the Commissioners; for they observe that notwithstanding the occurrence of these cases after vaccination, thousands of the vaccinated may have passed unscathed, although exposed to the same epidemic influence.

One important inference may, however, be drawn from the rate of mortality observed; although it is true the number of instances do not correspond. It appears that among the vaccinated the deaths were only *one* in *ninety-six cases*, or little more than one per cent.; while among the unvaccinated the deaths were nearly *one in six cases*, or almost *seventeen* per cent.!

The general conclusion that vaccinated persons are liable to be attacked by the small-pox cannot be denied; and experience has long since shewn, what the report confirms, that the disease as it then appears, puts on a mild character, while the rate of mortality, if not so low as M. Bousquet's table represents it to be, is, beyond all question, considerably diminished.

The next important point was to determine the conditions under which the

* See Vol. xxxvi. p. 1345.

vaccinated were liable to be attacked by small-pox, when it was raging in an epidemic form. The conclusion uniformly arrived at was, that those who had been for some time vaccinated were more liable to be attacked than those who had only recently undergone vaccination. Before the ninth year after vaccination, children were but rarely attacked by the disease; and in the cases which formed an exception to this remark, it assumed so mild a character that it could hardly be termed small-pox. On the other hand, the disease appeared to seize, among the vaccinated, especially those on whom vaccination had been performed for a period of ten, fifteen, or twenty years, up to the age of thirty-five. This conclusion, if well founded, shows that the greater part of an adult population, who have already been vaccinated, are exposed to attacks of small-pox; and that in them the vaccine virus has lost its protective influence. It also opens the question which has been raised respecting the absolute necessity for general re-vaccination—the examination of which we shall reserve for another occasion.

## Reviews.

*On Diseases of the Liver.* By George Budd, M.D. F.R.S. 8vo. pp. 401. London: Churchill. 1845.

We regard the appearance of Dr. Budd's work as a new epoch in the history of diseases of the liver; not that we conceive its author has succeeded in fully elucidating the pathological conditions of that organ, but because he has not only combined within a comprehensive space a very large number of definite facts the results of actual and careful observation, but has so carefully arranged and collated these facts, that, to say the least, they must be found most valuable to subsequent observers, who, possessing both industry and a field for inquiry, merely require a definite and tangible clue to enable them to undertake a complete investigation of the diseases in question.

Dr. Budd informs us that the "materials of which the present volume is composed accumulated during eight years in which he has been engaged in hospital practice." His position as visiting physician to the Dreadnought enabled him to gain a considerable insight into the diseases of the liver as contracted in the East Indies; and, in addition to his own careful research, he has received much assistance from medical friends, who have furnished him with many illustrative cases.

The earlier pages of the work are devoted to the structural anatomy and physiology of the liver; the facts determined by Kiernan, Bowman, and other investigators, being combined with the observations of modern physiologists respecting the functions of the organ, and the chemical constitution and uses of its secretion. The remarks on the several forms of hepatic congestion convey but few novel facts; but the chapter on suppurative inflammation of the liver contains some hints with regard to the causes of hepatic abscess, which, although far from conclusive, are extremely interesting, and deserve very careful attention and investigation. We shall endeavour to give a brief sketch of the author's opinions upon this subject.

He starts with the proposition, that the researches and experiments of Mr. Arnott, in this country, and of MM. Dance and Cruveilhier, in France, establish the fact, that the abscesses which form in the liver and other organs after surgical operations and injuries of the head or limbs, are owing to suppurative inflammation of a vein, and the consequent contamination of the blood by pus. The globules of pus, mingled with the blood, are conveyed to the capillary vessels of the lungs, and, it would seem, by becoming mechanically arrested there, excite circumscribed inflammation and abscess. If any of the globules pass through the capillaries of the lungs to the left side of the heart, they are sent in the arterial current to other organs, and becoming arrested in the capillaries of these organs, excite, as in the lungs, inflammation of limited extent, rapidly passing on to abscess. So far, the opinion of our author agrees with that of several writers who have

treated of hepatic abscess as consequent upon operation and injuries. He now proceeds further to cite cases in which injuries to parts about the rectum, and other structures from which the veins which feed the vena portæ pass, have been followed by suppuration in the liver, consequent, as he believes, upon the direct transit of pus from the affected part through the portal vessels. He then observes:—"The consideration of these cases leads us naturally to a third cause—I believe a far more frequent cause—of abscess of the liver; namely, ulceration of the large intestine, or, more generally, of the intestines, the stomach, the gall-bladder, or ducts, parts which return their blood to the portal vein, to be thence transmitted to the capillaries of the liver. A connexion between abscess of the liver and dysentery has long been noticed, but the two diseases are associated far more frequently than has been generally imagined."

The author then proceeds to show that in a very considerable proportion of the cases of hepatic abscess recorded by Annesley, Andral, and Louis, and of those which have fallen under his own notice, there were ulcers either in the large or small intestine, the stomach, or in the gall-bladder, or its ducts.

In concluding a summary of his own cases, he remarks—

"There were seven cases out of fifteen in which there was ulceration of some part of the extensive mucous surface that returns its blood to the portal vein. The fact will appear still stronger, if we recollect that in one of these fifteen cases, the abscess in the liver was caused by a blow; that, in four others, it seemed in consequence of phlebitis; and that in none of these five cases were there any ulcers in the stomach, intestines, or gall-bladder. So that, in seven out of eleven cases, in which the abscesses were not the consequence of a blow or of general phlebitis, there was ulceration of the stomach, the small or large intestines, or the gall-bladder. It is," he adds," "impossible to suppose that this is a mere coincidence of diseases, having no relation to each other.

"Annesley, much struck with the frequent association of the two diseases, and impressed with the importance of establishing their true relation, confesses his inability to do this. He supposes that, in some cases, the abscess is consequent on the dysentery; that, in others, the dysentery is the mere consequence of the disease of the liver; while, in a third order of cases, the disease of the liver, and that of the large intestine, are coeval, or so nearly coeval, that it is almost impossible to decide which had priority."

And the author himself admits that—

"In the cases which fell under his own care in the Dreadnought, he experienced the same difficulty, and generally found it impossible to tell, from the history of the case, which had priority—the disease of the liver or the dysentery. In some cases, however, it was impossible to resist the conclusion, that the abscess of the liver was not only consequent on the dysentery, but caused by it."

A case is then related, in which there was certainly every reason to believe that several recent abscesses found in the liver were secondary to, if not consequent upon, sloughing of the mucous membrane of the rectum, resulting from dysentery. The author then adduces several interesting arguments, which lead him to the conclusion, that—

"In all the cases, or most of the cases, in which abscess of the liver and dysentery are associated, the former disease is the consequence of the latter." "Admitting dysentery, or ulceration of the bowel, to be a source of abscess of the liver, it is obvious that the liver does not become involved by spreading of the inflammation, but by some contamination of the portal blood. This may be either by *pus*, formed by suppurative inflammation of one of the small intestinal veins, or by matter of other kind, resulting from softening of the tissues; or by the fetid gaseous and liquid contents of the large intestine in dysentery, which must be absorbed, and conveyed immediately to the liver."

Dr. Budd cites cases, in which abscess of the liver was coincident with, (or, as he believes, consequent upon, ulceration, independently of dysentery), of the stomach or gall-bladder; parts which, like the larger intestine, return their blood to the portal vein. And he finally completes his train of evidence by giving an instance, in which he believes the contaminating matter was brought by the splenic vein; the liver contained a great number of abscesses about the size of walnuts, and the commencement of the splenic vein was in a state of purulent phlebitis.

The author argues that—

"Among many cases of dysentery, there may be only one in which abscesses form in

the liver, just as among many cases of amputation, or injury of the head, there may be only one in which abscesses form in the lungs and other organs. And he adds, that "it is not, perhaps, every form of ulceration of the stomach and intestines that gives rise to abscess of the liver."

He has never seen abscess of the liver noticed in conjunction with ulcerated intestine in typhoid fever. It is not noticed in any of the ten cases of ulceration of the duodenum after burns, given by Mr. Curling, in his paper, in the Med. Chir. Trans. for 1842. It is very rare also in conjunction with ulceration of the intestine in phthisis.

The above statement will afford a fair idea of the author's opinion with regard to the causes of a large proportion of the instances of hepatic abscess, as occurring in the East; but we think it will be perceived that, ingenious and well-defended as his arguments are, they fall very short of completely demonstrating the required position. There are several circumstances which lead us to demur to the author's conclusion; as, for instance, the great probability that the intestinal and hepatic diseases are merely the coincident, but separate, results of a constitutional cause; the fact that softening and other diseases of the liver, which are not allied to suppuration, are also liable to present themselves in fatal cases of dysentery, and the circumstance that in some of the recorded instances, where hepatic suppuration followed an attack of dysentery, the patients survived several months, whereas in that class of cases where hepatic inflammation is considered to supervene upon the absorption of pus, the abscesses never become chronic, but the patients sink rapidly with typhoid symptoms. Moreover, we have always been of the number of those who, admitting that the theory of "purulent infection" is supported by rather strong circumstantial evidence, have great doubts of its correctness, and absolutely deny that its truth has ever been demonstratively proved; hence, we conceive that Dr. Budd's theory rests upon a very insecure foundation. Still, we trust that it will not fail to be carefully tested by future observation; the fact which it seeks to establish would be far too interesting and too important in a pathological point of view to be hastily set aside, and we doubt not that, in those districts of India where dysentery and hepatic abscess abound, many intelligent observers will be found, well disposed to submit it to careful investigation.

We have dwelt at so much length upon the above discussion, that our space will admit of but very slight allusion to many other interesting subjects contained in the remaining portion of the work.

Dr. Budd agrees with Rokitansky that the rare form of disease, gangrene of the liver, seldom occurs independently of gangrene of some other part of the body. He believes that the dark appearance, occasionally observed in portions of the gland surrounding an hepatic abscess, does not depend upon gangrene, but is, in reality, owing to partial decomposition of the matter in the abscess, the hepatic tissue immediately surrounding the abscess having become blackened by the sulphuretted hydrogen formed in the process of decomposition. The sections on inflammation of the veins and on inflammation of the gall-bladder and hepatic ducts, are replete with valuable cases and interesting pathological facts.

The author appears to be fully convinced that there is a close analogy between the secondary masses of cancer, as developed in the liver, and the secondary abscesses from phlebitis. The following sentences afford a sketch of the opinions which he has adopted upon this subject:—

"A cancer of the heart may be the source of cancerous tumors in the lungs and liver, just as an inflamed vein in the arm may be the source of abscesses in those parts.

"The abscesses and the secondary cancerous tumors will be scattered in the same manner, and immediately surrounded by healthy pulmonary or hepatic tissue. The lungs and the liver are the organs in which secondary cancerous tumors, as well as the abscesses from phlebitis, are most frequent.

"The cancerous tumors and the abscesses have in each organ the same form and seat; and in the lungs, both have a great predilection for the surface.

"These points of resemblance can hardly be explained, except on the supposition that the germs of the two diseases—cancer cells and pus globules—are disseminated in the same manner through the veins."

A section is devoted to the subject of hydatid tumors of the liver, in which

the author details the results of his examination of several specimens preserved in the museum of King's College, in which he fully confirms the correctness of M. Livois' observation, that acephalocysts are the receptacles of echinococci. In five of these specimens, he had no difficulty in finding echinococci, or some of their remains, in the acephalocysts. Dr. Budd has collected some interesting facts relative to the presence of the liver fluke (*distoma hepaticum and d. lanceolatum*) in the liver of the human subject. He quotes instances where the distoma lanceolatum was found, by Buchloz, in considerable numbers in the *gall-bladder;* cases by Brera, where the distoma hepaticum was discovered in the *gall-ducts* and *duodenum;* and the interesting instance, by M. Duval, of Rennes, where five or six individuals of the last named parasite were found in the *portal veins* of a man 49 years of age. We cannot refrain from quoting the following cases:—

"A few years ago, a single fluke was discovered by my colleague, Mr. Partridge, in the *gall-bladder* of a person who died in the Middlesex Hospital. Mr. Partridge was present at the examination of the body, and was struck with the appearance of the gall-bladder, which, instead of being stained by bile, as is usual, was perfectly white. He took the gall-bladder away, and, on laying it open, discovered the fluke. He presented the fluke to Professor Owen, who considered it to differ in no respect from the D. hepaticum of the sheep.

"In the winter of 1843, fourteen flukes were found by Mr. Bush in the *duodenum* of a Lascar, who died in the Dreadnought. There were none in the gall-bladder or ducts. These flukes were much larger and thicker than those of the sheep, being from an inch and a half to near three inches in length. They resembled the distoma hepaticum in shape, but were like the D. lanceolatum in structure; the double alimentary canal, as in the latter variety, not being branched, and the entire space between it towards the latter part of the body being occupied by a branched uterine tube. Two of these flukes, which were given me by Mr. Bush, are in the museum of King's College."

We have read the whole of Dr. Budd's treatise with great interest and satisfaction: it is undoubtedly an important addition to pathology. It will be probably received chiefly as a guide to future investigators, whose researches will be greatly facilitated by its ample details, and whose attention will now be drawn to those points of inquiry which still remain to be decided by extended observation. Dr. Budd's work deserves to occupy a distinguished position in the library of every pathologist.

## Proceedings of Societies.

### SOUTH LONDON MEDICAL SOCIETY.

December 11, 1845.

EDWARD COCK, ESQ., PRESIDENT, IN THE CHAIR.

MR. HICKS called the attention of the Society to the subject of pneumonia, as occurring in children—more particularly in reference to treatment. He first alluded to the great difference existing regarding it, and the relative value of tartar emetic and calomel. The mode of attack, which at times is very insidious, and the exciting causes, were also glanced at. Among the symptoms the pungent heat of surface was mentioned as a diagnostic sign of little value alone, but, conjoined with other symptoms, of the greatest importance, not only in the indication of the presence, but also the actual seat of pneumonia.

He regarded percussion of little value in the first stage. The first physical signs were more audible respiration, and a dry papery sound, followed by small moist crepitation, dissimilar to that of pneumonia in adults. Afterwards dulness on percussion, and marked bronchial respiration. This stage of transition from congestion to consolidation of the lung was very slow in children; and in fatal cases death took place rather from obstructed respiration than from structural change of lung. His experience did not agree with that of those who considered that bronchitis always preceded pneumonia.

He remarked that a state of mere congestion had not been sufficiently noticed—a form more frequently occurring in weakly children, accompanied with deranged secretions, urgent dyspnœa, livid or pale countenance, known by slight dulness on percussion, and deficient respiratory murmur, but soon yielding to appropriate treatment.

The diseases most liable to be mistaken for pneumonia were bronchitis, hydrocephalus, and the irritation from dentition. Cases were related in illustration.

In regard to treatment the author relied much on antimon. pot. tart, if given at the onset. The symptoms quickly yielded before prostration of strength occurred, and head affection was less liable to be produced

than by calomel. His usual plan was to give a solution of antimony, equal in strength to the wine, in tea-spoonful doses frequently repeated until it produced vumiting, and afterwards in smaller doses until the desired effect was produced.

By calomel, alone, bronchitic irritation is kept up after the pneumonia has subsided. The reputed ill effects of antimonials were owing to their injudicious use. Ipecacuan, as an emetic, was inferior. Emetics should not be continued if they do not produce their effect in a proper dose, nor are antimonials to be used where the disease is far advanced, and debility great. He objected to depletion, on account of its depressing effect, which can be more safely obtained by antimonials. Stimulants were chiefly useful when the skin was moist, breathing less laborious, the lungs oppressed with secretion, and the pulse slow and feeble. As a counter-irritant, he preferred, in the first stage, a mustard, followed by a linseed-meal poultice; blisters, if necessary, only in the latter stages.

Dr. HUGHES referred to cases of cerebral disturbance originating in affection of the lung, where the diagnosis was always difficult, and to be guided by the primary symptoms, rather than by any peculiar diagnostic sign—cases often occurring of a latent character, especially in strumous children.

Mr. HICKS agreed that the diagnosis should be drawn from the primary symptoms and mode of attack. He remarked that the respiration was more than simply puerile, it was more audible and distinct than that. In reply to Dr. Munk, said he had found increased puerility of respiration in the part about to be attacked, and also increased heat on the side of the inflamed lung.

Mr. CRISP did not place reliance on the increased heat; and with regard to the puerile respiration, he had found from post-mortem examinations that the seat of pneumonia was generally at the lowest part of the lung, while puerile respiration was generally in the upper.

He considered one disease, not mentioned, very liable to be confounded with pneumonia, namely, pleurisy; and alluded to cases where pneumonia had been supposed to exist and the autopsy had shewn layers of lymph on the pleura. In pleurisy in children, he had remarked that the head was thrown or drawn backwards. In the treatment he advocated leeching and calomel, and considered tartar emetic might produce ill effects.

Dr. ALDIS alluded to morbid appearances, shewing the lobular form of pneumonia as more frequent in children. He advocated the use of tartar emetic, but would not neglect leeching.

Dr. BARLOW thought Mr. Hicks' case might be capillary bronchitis. The pungent heat of skin, although valuable, could not be considered as diagnostic of capillary bronchitis or pneumonia, as it was present in the early stage of fevers, and some eruptive diseases. He regarded calomel as chiefly useful in removing the effects of inflammation, whilst tartar emetic caused diminution of the heart's action, and checked it. He had not seen in his experience any ill effects from the use of this remedy.

Mr. CRISP considered a solution preferable to the wine of antimony, as the spirit might be injurious. He remarked that when the lower part of the lungs was affected, the child could not cry aloud. Some remarks were then made on the temperature of the apartment of the patient; some advocating the use of a fire, and some not.

At the next meeting, January 8, 1846, Mr. Squire will relate an interesting case of abdominal disease, with an account of the post-mortem examination.

## Correspondence.

### FATAL CASE OF RETENTION OF THE PLACENTA.

SIR,—Cases of retained placenta are so rare and so interesting, that I hope you will give the following a place in your valuable Journal.

December 1st, 1845. — This evening, between 9 and 10 o'clock, I was called to Mrs. S.——, who had been delivered about *four hours previously* of a still-born child, being her fifth confinement. Her last labour was severe, and followed by phlegmasia dolens. The present had been a breach presentation, and was by no means tedious or severe. When I arrived, Mr. Strachan, of Alloa, who was in attendance, informed me that no after-pains had followed the birth of the child, but that he had made sundry unsuccessful attempts to extract the placenta, during which the umbilical cord had been torn away at its insertion. The ergot of rye to the extent of ʒj. had also been given without the wished-for result. On examining externally, the uterus felt hard and firmly contracted, there was no hæmorrhage, the pulse was quick and feeble, and there was great prostration of strength. I made an attempt to introduce my hand and extract the placenta, but the os uteri was so firmly contracted that I could only get two fingers passed beyond it, by means of which I could discover by passing the fingers around, that the placenta was firmly adherent to the uterus at the extremity of the left horn. 100 drops of laudanum were given, and soon after a second attempt was made, by which I succeeded in getting three of my fingers into the uterus so far as to detach and bring

away about the fourth part in size o an ordinary placenta. After this I deemed it prudent to desist from any further efforts to dilate the uterus. After using pressure with the hand and applying a firm bandage, repeated enemata were administered, and still no expulsive pains followed.

Dec. 2d.—This morning Mr. M'Queen, of Dollar, also made an ineffectual attempt to extract the placental remains; he got away a part of it no bigger than a walnut, and we resolved to make no further manual efforts to extract. Still no after-pains, but nausea and occasional vomitings had occurred. I prescribed a purgative of calomel and jalap, which acted briskly; pulse 120.

Dec. 3d.—Patient much the same. To have tepid injections per vaginam three times daily, effervescing draughts, also an occasional pill of calomel and opium by way of anticipating inflammatory action.

Dec. 4th.—Symptoms worse; fœtid discharge from vagina; some pain in uterine region; great prostration; face haggard; severe bilious vomiting.

Repeat the purgative: turpentine cloths to abdomen: continue Calomel c. Opio.

This evening violent rigors ensued.

Dec. 5th.—Abdomen greatly swollen; pulse small, and 130.

Continue medicines, and Ung. Hydrarg. to abdomen, turpentine enemata, &c.

Dec. 6th.—About 7 o'clock this evening the patient was assisted to the upright posture, and soon afterwards the remains of the placenta came away, *exactly five days after the birth of the child.* It was a black putrid mass, of harder consistence than usual, with patches here and there having a cartilaginous feel and appearance.

Day by day the symptoms became aggravated in spite of all treatment; the pulse became more quick and feeble; the vomiting of dark green bile continued incessant; the swelling of the abdomen remained, and on the morning of the 9th, at ten o'clock, this patient was relieved from her extreme sufferings by death.

The friends would not allow a post-mortem examination of the body.

Remarks.—During the latter months of pregnancy this patient had been greatly distressed with pain in the fundus uteri, according to her own accounts just where the placenta adhered. Quære?—Had placentitis occurred at this time and been followed by adherent placenta? Is there reason to believe that local and general bleedings in such cases may be available in preventing adhesion of ths placenta?

Your most obedient servant,

J. B. Thomson, L.R.C.S.E.

Tillicoultry, Dec. 10th, 1845.

## ON DR. ROBERTS'S CASE OF ULCERATION OF THE DUODENUM.

Sir,—Dr. Roberts, in his interesting case of ulceration of the duodenum, appears to me to overlook the agency of the calculus impacted in the gall-duct, in the production of the altered condition of the gall-bladder. When the cystic duct has been long obliterated, bile is no longer found in the gall-bladder, its contents being merely the secretion of its own mucous membrane. Andral, in speaking of the occasional presence of phosphate of lime calculi in the gall-bladder, says:—"J'ai trouvé deux fois de semblables calculs dans la vesicule; mais c'était dans des cas où l'obliteration du canal cystique ne permettait plus depuis long-temps à la bile d'arriver dans la vesicule; c'était au milieu du mucus qu'elle contenait que c'était formée une concretion de phosphate calcaire." Were the bleached calculi found in this case composed of phosphate of lime?

The increased quantity of liquid supplying the place of the bile may have been produced by the irritation communicated from the neighbouring diseased organs.

The absence of bile in the hepatic and common ducts is an interesting circumstance, but has no obvious connection with the nature of the fluid distending the gall-bladder. As the man had never been jaundiced, it is evident that the suppression of bile had taken place but a short period before death.—I am,

Your obedient servant,

J. W.

December 1845.

## ANALYSIS OF THE DEEP-WELL WATER OF THE LONDON BASIN. BY THOMAS GRAHAM, ESQ., F.R.S., PROFESSOR OF CHEMISTRY IN UNIVERSITY COLLEGE.*

This water is obtained on piercing the London clay, which forms an impervious bed, generally exceeding 200 feet in thickness, and flows from fissures in the subjacent chalk. It is always highly soft and alkaline, and remarkable for the predominance of soda salts over earthy salts among its solid constituents. I have never found it to contain a sensible quantity of potash, although salts of the vegetable alkali appear among the constituents of the water of the deep Artesian well of Grenelle.

When evaporated considerably, a small deposit takes place in the London deep-well water, which consists chiefly of carbonate and phosphate of lime.† The remaining

* Lond. and Edinb. Phil. Mag., Nov. 1845. Communicated by the Chemical Society; having been read May 5, 1845.

† Phosphate of lime is held in solution by the free carbonic acid contained in the water; and it might probably admit of precipitation with the carbonate, by adding lime water to the water for

liquid gives with nitrate of silver a precipitate of chloride and carbonate of silver, which is white without any shade of yellow; but if a portion of the water, amounting to an ounce or two, be evaporated to dryness in a platinum capsule, without removing the precipitate, and the heat afterwards continued so as to raise the temperature of the resulting dry saline matter to low redness, then, on re-dissolving by distilled water, and adding nitrate of silver, a precipitate is obtained, in which the yellow colour of the phosphate of silver is very perceptible. The earthy phosphate is decomposed by ignition with the alkaline belonging to the water, and the soluble phosphate of soda is produced.

The following are the results of the analysis of the water from the deep well in the Brewery of Messrs. Combe and Delafield, Long Acre.* An imperial gallon of the water (70,000 grains) contained 56·45 grains of solid matter, 100 parts of which gave—

| | |
|---|---|
| Carbonate of soda . . . | 20·70 |
| Sulphate of soda . . . | 42·94 |
| Chloride of sodium . . | 22·58 |
| Carbonate of lime . . . | 10·96 |
| Carbonate of magnesia . | 1·92 |
| Phosphate of lime . . . | 0·34 |
| Phosphate of iron . . . | 0·43 |
| Silica . . . . . | 0·79 |
| | 100·66 |

The growth of green confervæ in this water is extremely rapid, and occasions inconvenience when the water is kept in open tanks. It is a subject perhaps worthy of inquiry, whether the value of some waters for irrigation may not depend upon their containing phosphoric acid, this constituent having hitherto been generally overlooked in waters.†

## METEOROLOGICAL SUMMARY

*For the week ending Saturday, Dec. 27.*

| | Max. | Min. | Mean. |
|---|---|---|---|
| Mean Height of Barometer | — | — | 29·63 |
| „ „ Thermometer[a] .. | — | — | 40·10 |
| Self-registering do. ..... | 52·5[b] | 21·5 | |
| „ in the Thames water | 41·8 | 37·2 | |

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·46: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was nearly a degree above that of the mean temperature of the month of December (39·3°). The extreme hebdomadal range in the self-registering thermometer was 31°.

analysis, on Dr. Clark's principle of purifying water.—ED. GAZ.

* Temperature and depth not stated.

† The analysis of the deep-well water of the Paris basin, which issues from the green sand, will be found at p. 304 of the last volume. The water contains only one-fourth the proportion of saline matter above mentioned, nearly one-half of which is carbonate of lime, and nearly one-fourth bicarbonate of potash. There are no phosphates.—ED. GAZ.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, Dec. 27.*

| Births. | Deaths. | *Aver. of 5 yrs.* |
|---|---|---|
| Males.... 552 | Males.... 469 | Males.... 491 |
| Females . 517 | Females . 441 | Females . 472 |
| 1069 | 910 | 963 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 127 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 168 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ..... (Pop. 374,759) | 155 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ..... (Pop. 393,247) | 205 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich (Pop. 479,469) | 255 |
| Total ..... | 910 |

### CAUSES OF DEATH *in the Week ending Dec.* 27.

Col. A. Weekly Averages of 5 Autumns; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 910 | 1020 | 963 |
| SPECIFIED CAUSES ..... | 907 | 1010 | 954 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 206 | 1 | 184 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 81 | 109 | 106 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 130 | 155 | 159 |
| 4. Lungs, and other Organs of Respiration ..... | 298 | 323 | 292 |
| 5. Heart and Blood-vessels ..... | 29 | 27 | 24 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 70 | 68 | 71 |
| 7. Diseases of the Kidneys, &c... | 16 | 6 | 6 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 10 | 12 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 7 | 6 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 1 | 1 | 1 |
| 11. Old Age ..... | 47 | 74 | 70 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 12 | 27 | 26 |

The following is a selection of the number of Deaths from the important special causes:—

| | | | |
|---|---|---|---|
| Small-pox ..... | 8 | Convulsions .... | 42 |
| Measles ..... | 74 | | |
| Scarlatina ..... | 13 | Bronchitis ..... | 59 |
| Hooping-cough.. | 58 | Pneumonia..... | 98 |
| Typhus ..... | 28 | Phthisis .....102 | |
| | | Dis. of Lungs, &c. | 8 |
| Dropsy..... | 12 | | |
| Sudden deaths .. | 11 | Teething ..... | 17 |
| | | Dis. Stomach, &c. | 5 |
| Hydrocephalus ... | 36 | Dis. of Liver, &c. | 11 |
| Apoplexy..... | 12 | | |
| Paralysis..... | 15 | Childbirth ..... | 7 |
| | | Dis. of Uterus, &c. | 2 |

REMARKS.—The total number of deaths was 110 below the autumnal and 53 below the annual average. The deaths from Zymotic diseases, with the exception of Measles and Hooping-cough, were also below the averages. The mortality from Measles still continues very great (deaths 74). In the South districts, the mortality was above the average. In all the others, it was below.

## Lectures.

### CLINICAL LECTURE

ON

### DISEASES OF THE UTERUS AND ITS APPENDAGES.

By J. C. W. Lever, M.D.

Physician-Accoucheur, and Lecturer on Midwifery at Guy's Hospital.

Case I. — *Vascular Tumor at the Orifice of the Meatus Urinarius.*

Sarah H——, æt. 67, was a patient in Petersham Ward, five years since, with severe neuralgic symptoms, which were treated by ammonia, quinine, &c. and the topical application of belladonna, and after some weeks' residence left the hospital greatly improved. In early life she menstruated regularly but scantily, and married at the age of 34 : after she left Guy's Hospital she followed the employment of a sempstress, but was compelled to relinquish her work from severe pain in the urethra, irritability of bladder, and continued desire to void her urine, which she attempted every five minutes ; difficulty, but no pain, was experienced in passing her motions.

After the trial of various popular remedies, as well as submitting herself to the care of surgeons, she applied at a Dispensary at the west end of London : there the cause of her sufferings was detected. Her general health is tolerably good, and there is no discharge of any kind. At the time of her admission she had constant calls to void her urine, the passage of which occasioned her great pain ; occasionally the pains are of a shooting character, extending upwards to the abdomen, outwards to the hips, and backwards to the perinæum. On separating the external labia a vascular tumor was seen protruding through the meatus urinarius, of a florid red colour, and about the size of a kidney bean. On minute examination, which was with difficulty accomplished, on account of the exquisite sensitiveness of the growth, it was found that it passed some little distance into the urethra, and was sessile ; it bled upon the slightest touch, and the suffering occasioned by the examination was considerable.

The patient was placed on her back, and the tumor, with the lining membrane of the urethra attached to it, was removed. Arg. Nit. was then applied, and she was desired to keep the part continually wetted with white wash.

Oct. 18th.—Much pain followed the operation, and continued all night ; the urine has passed ; bowels costive. Haust. Sennæ C. stat.

20th.—Less pain ; micturition not so frequent, and pain during the passage of the urine slight.

22d.—Seat of the growth was again touched with Arg. Nit.

25th. — Slough has not yet separated. She was ordered to keep a white wash poultice applied over the meatus.

Nov. 1st.—Slough has come away, leaving a healthy granulating wound.

5th. — Makes water in a good stream, and with no pain ; part looking healthy.

8th.—Granulations sprouting. Arg. Nit. dissolved in Nit. acid to be applied.

13th.—The application caused considerable pain ; the stream of urine full ; and the pain in micturition has ceased.

18th.—Presented.

I have chosen to bring this case before you, as it will illustrate that particular form of vascular tumor to which females are liable, and which you will find described by Sir C. M. Clarke, at p. 289 of the first part of his work on the "Diseases of Females." It appears from the history of this case, that the patient during her residence in the hospital five years since, suffered from anomalous neuralgic pains, which were found on examination not to depend on organic disease of the uterus. These pains were relieved by attention to the state of the bowels, by the exhibition of ammonia and quinine, and the local application of belladonna. Females at this period of life frequently suffer from such pains ; by the inexperienced, they are confounded with those accompanying peritonitis, but a little caution will prevent your falling into this error ; there is an absence of febrile symptoms, and the pulse is different ; in peritonitis it is sharp and wiry ; in neuralgia, it may be quick, but it is small, and easily compressed ; in peritonitis there is tenderness, and that is materially increased by pressure, while in neuralgia the patient makes complaint when pressure is first employed, but if such be increased while she is engaged in conversation she will not complain. The position of the patient varies in the two diseases : in peritonitis, she lies with the lower extremities flexed ; in neuralgia, she can keep them extended without difficulty or pain. It is of importance to make a correct diagnosis, for the treatment of the two diseases vastly differs. If the inflammation of the serous membrane be treated as neuralgia, death may sooner or later ensue, and those pathological changes which we usually find present in the abdomen will be found ; there will be a greater or less quantity of plastic or nonplastic effusion. On the other hand, if neuralgia be treated by those heroic remedies which peritonitis demands, the pa-

tient's constitutional powers will be shattered, her strength reduced, and the attacks of pain rendered more frequent and enduring. The brief history of the treatment resorted to in this case will suffice to point out to you the plan of treatment necessary; the bowels should be thoroughly and daily evacuated, and tonics, as quinine, ammonia, &c. should be given in full doses. The diet must be generous, and the pain allayed by the topical application of anodynes. I have seen in some cases great advantage arise from the exhibition of iron and arsenic, but caution is necessary where the latter medicine is exhibited.

This patient left the hospital much benefited; in fact, so well as to gain her livelihood as a sempstress. But after a time the symptoms which prevailed on her admission commenced; viz. pain in the urethra, irritability of the bladder, constant inclination to void its contents, obstruction in the passage of the urine and a sense of scalding during its passage; pain in the pelvis, coursing to the back, hips, and thighs, was also complained of; she was weak, dyspeptic, dispirited, and worn out for want of sleep. Application to various persons for relief was vainly tried, until the true nature of the case was detected at the Chelsea Dispensary. Many of you had the opportunity of seeing the growth at the time of her admission; it was of a florid red colour and granulated; it protruded through the meatus urinarius, with the margin of which it was unconnected, but had rather a broad and short stalk attaching it with the canal at the distance of about $\frac{1}{4}$ of an inch. The slightest pressure caused the tumor to bleed, and the most gentle touch occasioned her exquisite pain. These growths appear to consist almost entirely of vessels and their connecting cellular tissue; they must, however, be abundantly supplied with nerves, from the exquisite suffering they occasion. And here let me for a moment direct your attention to the varieties of these growths we meet with, and most of which you have seen among our in and out-patients. Sometimes we have one in form and size like a small mulberry, having a slender stalk protruding through the meatus; sometimes these growths are no larger than a pea; in some cases they pass inwards along the urethra as far as, and even into, the neck of the bladder; they seem to have their origin below the mucous membrane, and from the submucous cellular tissue. In forming our diagnosis of these tumors we must not mistake for them simple polypoid tumors, which are occasionally found arising from within the urethra, and protruding through the meatus; it is true, thy da m the flow of urine, the water passes in a small and stifled stream; there may be grea tefforts to empty the bladder, and if the tumor be long overlooked the bladder may become thickened, and vesical irritation may ensue, but there is not that exquisite sensibility which is present where there are vascular growths, neither does the polypus so readily bleed. Again, we occasionally find malignant disease establish itself at the orifice of the urethra, and this may exist without malignant disease of the uterus and vagina; two examples of this disease may be seen amongst the out-door patients: here also, there is difficulty in micturition, pain and scalding during the passage of the urine, there is occasional bleeding, and conjoined with this, or in its absence, a mucous discharge. Ocular examination will, however, readily detect the one from the other; in malignant disease there will be found a hardened lobulated tumor, or a cluster of lobulated tumors involving the urethra to a greater or less degree, diminishing its capacity and almost closing its external opening. And if, in addition to this, malignant disease of the vagina be present, it will greatly assist our diagnosis. Frequently, too, the inguinal glands are enlarged, and the aspect of the patient is characteristic of malignant cachexy. There is another disease to which this part of the female urinary apparatus is liable; viz. thickening of the cellular membrane around the urethra, with an enlarged and varicose state of the vessels, in which there is a dilated state of the blood-vessels with an hypertrophied condition of the cellular membrane; the urethra for an inch or more behind the meatus is frequently so dilated as to hold some few drops of urine, which may be pressed from it, and which create continued irritation. This state of parts is accompanied by constant uneasiness; there may be pain in sexual intercourse, although for the most part females labouring under this malady have their sexual desires exalted; the uneasiness is increased in the erect posture, there is frequent inclination to evacuate the bladder both by night and by day, a small quantity of urine flowing at a time, and the patient generally feels as if there were more fluid to pass. There is also a slight mucous discharge.

The finger passed into the vagina feels the urethra to be swollen and spongy, and if the disease have lasted for some time there will be a part from which a few drops of urine may be pressed. When inspected, the part will be found of a dark red colour, and in some cases there is tenderness. You cannot readily mistake verrucous tumors growing from the vestibulum for this disease; the former are insensible, their colour resembles that of the part from which they grow, their number varies, they may be solitary, in other instances there are many, but in all cases there is a mucous discharge.

Let me advise you, in every case in which you are consulted, where the patient makes complaint of symptoms similar to those detailed in this woman's history, not to prescribe or give an opinion without the privilege of a tactile and visual examination. A neglect of these I have known lead the practitioner to commit sad mistakes, and involve himself in great disgrace. One instance I remember to have seen and treated, where the opinion given was, that there was calculus in the bladder. The patient as well as her friends were very properly alarmed, further advice was recommended; the case was investigated, no calculus was present, the sole disease being a vascular growth; this was removed, and the patient has had no return. I have on several occasions seen cases in which carcinoma uteri was suspected from the pain in micturition, the central pains attacking the pelvis and stretching to the back, hips, and down the thighs, and even this disease in some has been declared by the medical attendant to exist, although he had not availed himself of an internal or visual examination. Be on your guard, therefore; in no case give a hasty or rash opinion; take care not to judge by mere symptoms, without employing the several means of physical diagnosis which in a previous lecture I have detailed.

Let me now request your attention to the treatment employed in this case; the neck of the tumor was grasped by a pair of forceps, and by means of a pair of scissors the mucous membrane of the urethra involved with the tumor itself was removed. To effect this the patient should be held firmly, for, if she move, the structure of the growth is so slender that the tumor will tear away; the forceps employed should be broad, not the common artery forceps, for they will lacerate, and not hold firmly. The excision of these growths is frequently accompanied by a pretty copious bleeding; but it is rarely necessary to tie any vessel, a compress applied to the part for a time usually arrests the hæmorrhage; this, however, should be looked to, especially if the patient call at your house, and has any distance to go after the operation; some arg. nit. was applied freely to the part from which the tumor was removed. After the slough separated, the wound looked healthy; there was no pain in passing the urine, which flowed in a full stream for some days. On the 7th the granulations were sprouting: I then directed the clerk carefully to touch the part with arg. nit. dissolved in nit. acid; this I have found to be more potent and I think less painful (if I may judge by the expressions of the patients), than the arg. nit.: its effect has been good, and our patient will soon leave the hospital. In those cases where the tumor is of the form of a cherry or mulberry, I find the better plan is to tie a piece of dentist's silk waxed around the stalk, and snip off the tumor below; the silk should not be too thin, or it will cut through, neither should it be tied too tightly for the same reason. When the ligature comes away the stalk must be destroyed in the same way as in the case related; if the mucous membrane itself, and the submucous tissue, be not destroyed, the vascular tumor will most certainly reappear. The most troublesome forms of the complaint that we have to treat are those in which the tumor not only peeps through the meatus, but runs along the urethra, and in some instances passes into the cavity of the bladder; in such, the symptoms of irritation are intense, the stream of urine is as fine as a hair, and the suffering patient attempts to pass her water every three or five minutes. If the disease go on unrelieved, she wastes, becomes dispirited, dyspeptic, and may at last die worn out by her long continued and aggravated sufferings. In such cases we cannot remove by scissors or knife the vascular growth within the urethra; the first thing to be done, therefore, is to pass a small sound or catheter to establish a canal for the passage of the urine. However painful this may be, and agonising it most certainly is, it must be done; some arg. nit. must then be passed along the track of the urethra, and by its agency the vascular growth must be destroyed; the sound or catheter must be passed every day or every second day according to circumstances, and the arg. nit. repeated as soon as the slough occasioned by its use has separated: it is as well to let the patient keep the sound or bougie in the bladder for half an hour after the application of the caustic.

This is certainly the most difficult form of the tumor to treat, and unless we succeed in effectually destroying the structure from which the tumor proceeds, we shall most certainly have it reappear. While this treatment is had recourse to the patient must be closely watched, for I have seen cystitis occasioned more than once by the caustic applied in the manner I have recommended; but this will depend on the constitution and susceptibility of the patient, as well as upon the state of the mucous membrane of the bladder itself.

Various other modes of treatment have been recommended—the application of the Tr. Iodinæ c. Pulv. Sabinæ, Pulv. Alum. &c. All I have tried, with some I have occasionally succeeded, with all I have many times failed: the plan I adopted in this woman's case is the one I believe to be in the majority of cases the most successful.

When the cause of the continued irritation was removed, this patient's health and

spirits quickly recovered, and at the present time she looks remarkably well and lively for a woman of 64.

*Case of Passive Menorrhagia.*

Case II.—Eliza M——, æt. 21, a pale exsanguine woman, with brown hair and pearly eye, was admitted into Guy's Hospital, on October 15th. She has been married three years and has had one child; her labour was good, but lingering. Her catamenia commenced at the age of 15, and were regular up to the time of her pregnancy. Her child died at the age of seven months, and a month after this menstruation recommenced, and with the exception of an interval of a day or two continued for three months; during this period a considerable quantity of coagula passed at various times. The discharge now ceased for a fortnight, at the end of which time (Tuesday, 14th), it again returned, commencing as before with a discharge resembling menstrual secretion, and increasing in quantity, and altering in quality, until nothing appeared but pure fluid red or coagulated blood; it increased towards evening. She has some pain in the back, accompanied with a sense of weight and bearing down. Her respiration is quick but normal; pulse small, quick, and feeble; she complains of weight at the top of her head, indistinctness of vision, and noise in the ears; her bowels are usually regular. On examination the vagina was soft and lax; the mouth of the womb was found patulous; the cervix soft and spongy, and the whole of the viscus large, soft, and relaxed.

She was ordered Quin. Disulph. gr. ij.; Træ. Hyoscy. ℥xx.; Mag. Sulph. ʒss. ter die, ex Infus. Rosæ C.

18th.—Bleeding continues in the same quantities, and of a florid colour.

Ordered Acid Gallici, gr. viii. 6tis horis, in formâ Pulv. c. Pulv. Acaciæ, ʒss.

20th.—Less discharge; still some weight and pelvic uneasiness, The Gallic Acid is detected in the urine.

21st.—Red discharge has entirely ceased, but there is still a colourless flow.

23d.—No discharge either colourless or red.

Ordered Tinct. Ferri Sesquichloridi, ℥xx.; Træ. Cinch, C. ʒj. ter die; ex. Inf. Quassiæ.

26th.—Much stronger, appetite good, countenance improved, no discharge.

Ordered to inject cold water into the vagina.

28th.—Presented, to attend as an outpatient.

This case presents many points of interest. It is that of a young woman, aged 21, who marries at the age of 18, and gives birth to one child, dying when seven months old. Her catamenia, appearing at the age of 15, had been regularly secreted up to the period of her pregnancy. A month after her child's death menstruation occurred, and with the exception of an occasional interval of a day or two, continued for a period of three months; the discharge always increased towards evening, depending most probably on the exertion made by her during the day, and consisted of fluid red and coagulated blood; at times the quantity was so great as to saturate several napkins in the course of twenty-four hours; for a fortnight it ceased, but a day or two previous to her admission into hospital it recommenced, and at the time I first saw her in the ward was very profuse; at first, it was free from coagula, but in a day or two numerous clots were expelled. Her appearance on admission bore evident signs of the long continued discharge from which she had suffered; her face was pale and exsanguine, the eyes had a pearly appearance, the conjunctiva was pale, the lips had lost their natural red colour, the tongue was flabby and indented by the teeth. Her symptoms also were those which usually attend losses of blood: there were pains in the head, especially at the top and in the temples; noise in the ears, likened by her to the singing of a kettle, her hearing was obtuse, the pupils were dilated, and her vision had become indistinct, especially towards evening and early in the morning when she rose from her bed; her respiration was hurried, its murmurs distinct; her chest was resonant; the heart's action was quickened, but regular, and free from abnormal sounds; the pulse was small, quick, and thrilling, it gave the finger of the investigator that peculiar and well-marked sensation which is found to be present when the system has lost much of its vital fluid; her spirits were depressed; there was occasional globus; her bowels were regular, her appetite capricious, and there was considerable thirst; there was neither tenderness, pain, nor fulness in any part of the abdomen; her urine was scanty, but coloured from admixture with the uterine discharge; there was a dull but severe pain in the back, accompanied with a sensation of weight and bearing down. The appearance and symptoms just detailed to you are precisely those which we might expect to follow or accompany a long continuing menorrhagic discharge. Let me direct your attention to some of them:—First, the pain in the head: where menorrhagia has continued for some time, or where in fact any repeated hæmorrhage has exhausted the system, pain and weight at the top of the head and in the temples are usually complained of; the pain that accompanies uterine irritation or hys-

teria is more frequently found at the back part of the head; noise in the ears also accompanies considerable losses of blood; it is sometimes likened to the "music of the waves," to the "singing of a kettle," to the "buzz of a bluefly," or to the "ticking of a clock."

The obtuseness of this patient's hearing, and the indistinctness of her vision, are also worthy of notice; both these senses suffer, and that materially, from large losses of blood. This is especially seen in hæmorrhage occurring during or after delivery, and it is surprising to observe, which I have done on more than one occasion, that the faculty of vision is impaired or lost before the faculty of hearing. I remember being called to a patient of our Lying-in-Charity, residing in Union Street, attended by Mr. Martindale Ward, who had lost a very large quantity of blood after delivery, and in whom there was this loss of sight, but not of hearing. In a weak voice she told me she could not see, or could see but indistinctly, while at the same time she answered questions put to her in a loud tone, rationally and distinctly. Although I saw this woman but once, yet accidentally meeting me about six weeks or two months after, she recognised my voice, although, to use her own words, "she had not seen my face." Women who have suffered from large losses of blood frequently hear well while in the recumbent position, but the moment they sit up in bed, or attempt to stand, their sense of hearing becomes obtuse; and if, on the other hand, they then lie down, they will hear and answer questions, which, although put to them in the same key and tone of voice, they failed to understand while in the erect posture. The state of the pupil must not be passed over; it was dilated, and this is its usual condition, in all cases where the powers of the patient are low, or have been enfeebled from any exhausting disease. Further, let me direct your attention to the state of the pulse; it was quick, small, and thrilling; in fact, it gave to your finger the sensation of a tube only partially filled, and when it contracted it seemed as if the fibres of the artery did not act in concert. Thirst, which was distressing in this case, is always found where the fluids of the body have been quickly lost. It is seen in hæmorrhage of all kinds, from whatever organ the blood may flow; it is found associated with diabetes, it is present in diarrhœa, it is a marked symptom in cholera, while it usually attends the progress of abscesses where there is a copious purulent discharge; it appears to be an attempt on the part of nature to supply the waste of the fluids which is taking place. Again, the pain in the back, accompanied with a sensation of weight and bearing down, must not be forgotten; this attends all copious long-continued discharges from the sexual organs, whether red or colourless; the pain was not acute or lancinating; it did not dart through the pelvis, course round the hips and down the thighs, neither was it lancinating, and therefore I concluded it did not indicate any enlargement or any serious organic change of the uterus. Such were the symptoms which this case presented on admission; they doubtless could all be referred to the loss of blood from which she had suffered, but it was necessary to proceed further, to ascertain what was the cause of the hæmorrhage, whether it was idiopathic, or symptomatic of some disease of the uterus itself. Her age and appearance seemed to annul the idea of malignant disease: was it symptomatic of polypus? for, although polypus is usually found in women of more advanced life, yet we do occasionally see some forms of the disease in women as young as the patient before us. To settle this important point a vaginal examination was made; the canal itself was found to be lax and soft, the mouth of the womb was open; it readily admitted the forefinger, the cervix was soft and spongy, and the whole of the organ was soft and relaxed. This condition of parts will satisfactorily account for the long-continued hæmorrhages from which this patient had suffered; there was doubtless a loss of power in the muscular fibres of the uterus, whose office it is to guard the orifice of the veins from which the blood had been poured forth.

In the treatment of this case, therefore, the indications we had in view, were, 1st. to arrest the discharge; and, 2. to prevent its recurrence. In order to attain our first object the patient was kept in the recumbent posture, lightly clad; her diet was nutritious, but not stimulating; she was directed to abstain from hot liquids, which had invariably increased the flow, and quinine in two-grain doses was given her three times a day. The discharge, however, continued in undiminished quantity until we exhibited the Gallic Acid. I do not think I can speak too highly of this medicine when given in passive menorrhagia, or in the hæmorrhage which accompanies polypus and some forms of fibrous tumor of the uterus; it acts more speedily and decidedly than any medicine with which I am acquainted: it sits well on the stomach, and in my hands has seldom failed. Its value in this case, as you saw, was most decided. It was given in the evening of the 18th; on the morning of the following day there was less discharge. On the 20th still less; on the 21st the red discharge had entirely ceased, and on the 28th there was neither colourless nor red discharge. This medicine may be detected in the urine in a few hours after its exhibition. In this case it was sought for and found in

abundance. The remainder of the treatment was comprised in the administration of tonics; the Tinct. Ferri Sesquich. in bitter infusion, the employment of a generous diet, and the injection of cold water into the vagina. These effected the purposes for which they were recommended, and the patient is now rapidly regaining her strength. There are two other medicines which you have seen me employ in cases of passive menorrhagia; viz. alum and the ergot of rye; but I shall reserve my observations on these until I can direct your attention to the cases.

CASE III.—*Case of Vesicular Polypus of the Uterus.*

Mary H., 43 years of age, was admitted into Guy's Hospital, on Oct. 20th, 1845. She is of leucophlegmatic habit, of dark complexion, and unmarried. At the age of 15 the catamenia appeared; they have recurred regularly up to the present time, but for three or four months their duration has extended to three or four days beyond the accustomed period. For many years she has had a continued leucorrhœal discharge; of late this has been profuse, and similar to the white of egg; occasionally it has been coloured from admixture of blood. She complains of weight and pain in the back, accompanied with a sensation of bearing down; there are frequent calls to void the urine; the secretion is thick and cloudy; there are tremblings and weakness of the lower extremities. The bowels are regular, and the appetite tolerably good. On a vaginal examination the body was found to be lined with an abundant thick gluey secretion; the uterus was large and weighty, rather anteverted; the cervix full and tense, studded with enlarged glandulæ; the os uteri was full, tender, and congested, and from its anterior limbus there hung a vesicular or glandulous polypus, about the size of a kidney bean; viewed through the speculum, it was of a dark red colour, differing from the neighbouring parts of the uterus, which were of a brighter red hue.

On October 21st, the patient being placed on her back, a bivalved speculum was introduced and expanded; the polypus was grasped by means of a pair of forceps, and was removed by torsion: but little blood was lost. The spot from which it was removed was touched with arg. nit.

23d.—Menstruation came on after the removal of the polypus, and is continuing.

26th.—Menstruation has ceased; the spot to which the polypus was attached again cauterized; there is some yellow discharge, and the calls to micturate are not so frequent. Ordered—

Decoct. Cinchonæ c. Acid. Nit. Dil. ter die sum.

31st.—Discharge much less.

A pint of porter daily. Cont. Med.

Nov. 3d.—Discharge has ceased; complains of weight in the loins and back, especially when sitting up in bed.

Perstet.

7th.—There is considerable pain in the back, accompanied with a sensation of weight and bearing down. On examination, the uterus was found to be congested and weighty, the glandulæ still more prominent than natural.

C. C. lumbis ad ℥viij. et P.

8th.—The cupping has given her considerable relief.

11th.—An examination was again made; the uterus, although smaller, was still heavy, large, and rather tender, especially the anterior limbus. The cupping was ordered to be repeated to the same extent as before.

12th.—The cupping gave her great relief, but on the evening of this day the catamenia made their premature appearance.

17th.—Menstruation has ceased.

This case presents a very good example of by no means an uncommon form of polypus uteri, which presents itself in practice; viz. the vesicular polypus. This tumor is smooth, pyriform, usually has a narrow neck, is soft, and not of great specific gravity: from a very early period after its origin it is pediculated, and it rarely or never attains a large size. Sometimes there are two or three of these polypi present at the same time; in other cases there is a recurrence of the growths: from one patient I have removed five, two having been previously removed by the late Dr. Ingleby, of Birmingham. They are usually accidentally detected, on examination being made to ascertain the condition of the womb, the symptoms of which the female complains being referrible to irritation in that viscus. This was the case in this female when she presented herself for admission; there were symptoms of irritation in the uterus, frequent calls to void the urine, bearing down, a sense of weight and pain in the loins and sacrum; her menstrual periods were prolonged, the fluid being considerably increased in quantity; there was an abundant thick gluey discharge during the intervals of menstruation, shewing the irritation of the uterine glandular apparatus: such were her symptoms, and on instituting a vaginal examination, in addition to the congested condition of the uterus, its swollen and enlarged neck, and its prominent glands, a vesicular polypus was detected of the size I have already detailed. The plan of treatment, therefore, in this case was plainly indicated—1st, to remove the pendulous body; and, 2ndly, to relieve the morbid condition of the womb.

In order to accomplish the first the patient was placed in the recumbent posture; the vagina, dilated by means of a bivalved speculum, brought the os uteri with the polypus fairly into view. By means of a pair of forceps the polypus was grasped at its neck, and removed. This is not always readily accomplished, on account of the great mobility and slipperiness of this form of polypus; but it may be accomplished, and the removal is unattended with any serious hæmorrhage. Some have recommended their removal by means of a pair of curved scissors, blunted at their extremities, as the more easy operation; but I have never failed in removing them in the way I have recommended. After the removal of the tumor, the arg. nit. was applied to the spot from which it grew. That a considerable quantity of the thick gluey discharge was due to this polypus, is, I think, proved by its decrease and subsequent decline after removal of the growth; there is no doubt a great part of it was secreted by the enlarged glands at the neck of the womb.

After the removal of the polypus and the discontinuance of the discharge, the patient experienced considerable pain in the back, accompanied by a sensation of weight and bearing down; and on examination the uterus was found to be enlarged, weighty, congested, and its glandulæ more prominent than natural. Abstraction of blood by cupping, to the extent of ℥viij., was ordered, and with great relief. Although the uterus was reduced in size, still, on making the examination, on the 11th, I found it heavy and tender, especially in its anterior part; and therefore I ordered a repetition of the bleeding. If the tenderness and congestion had been confined to the cervix, I should have prescribed scarification or leeches; but where the whole organ is increased in size, as in this case, I find that the patient is more quickly relieved by taking blood from the loins or sacrum by means of a cupping glass.

This last abstraction of blood has been very beneficial, and I doubt not in a few days the woman will be in a state to attend as an out-patient.

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### NEW AFRICAN EXPEDITION.

Mr. W. F. Daniell, who has contributed a series of papers to this journal on the Medical Topography, Climate, and Diseases of the Bights of Benin and Biafra, has recently sailed to the Western Coast of Africa in charge of a new expedition for the exploration of the interior. We trust that he may be more fortunate than those who have preceded him in this dangerous path of discovery.

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## CASES TREATED IN THE WESTMINSTER HOSPITAL,

By Benjamin Phillips, F.R.S.
Assistant-Surgeon.

### *Curious tumor of the neck.*

Mary Purchase, ætat. 37, married, but without children, was admitted into Percy Ward, Oct. 8th, with an apparently pulsating tumor in the neck. Six weeks previous to admission, she felt bilious, and for the purpose of obtaining relief she took two penny-worth of antimonial wine, which produced incessant vomiting through the whole of the day. During one severe effort she suddenly felt a good deal of pain in the neck a little above the sternum. In the evening the pain remained fixed, and she perceived that there was a swelling at the part. From that period the soreness continued until she was admitted into the hospital; it was accompanied by a certain difficulty of swallowing, which had become very distressing forty-eight hours before admission.

It was carefully examined on the following day, and a tumor as large as the half of a French walnut was observed in the lower part of the neck. It extended in the course of the carotid artery from about half an inch above the sternum, and was partly overlapped by the sterno-mastoid muscle.

In whatever way it was grasped between the fingers, a pulsation was distinctly felt—accompanied by that characteristic thrill which is perceived in an aneurismal tumor. Upon the application of the stethoscope very lightly, a distinct bruit was perceptible.

After remaining perfectly quiet for twenty-four hours, the tumor was again examined; it seemed hardly so large as on the preceding day, and the pulsation in certain positions was less clearly manifested — the thrill and the bruit were less distinct.

On a succeeding examination the tumor seemed smaller, it was more moveable, the pulsations were still less distinct; and on this occasion it was discovered that it was adherent to the œsophagus. When held firmly between the finger and the thumb, if the patient be directed to swallow her saliva, the tumor is dragged upwards from between the fingers.

From this period the suspicion of aneurism was much lessened: one day the tumor was larger, another day smaller; one day the pulsation was distinct whatever position be given to the neck, another day it was almost completely absent.

From some domestic necessities she was now obliged to leave the hospital, but she

attends as an out-patient, and was seen this day, Dec. 8th, much in the same state as on her first admission.

Remarks.—This case is a very curious one; the history prepared us to expect aneurism, and a first examination confirmed the suspicion; the injury was the result of severe straining, which occasioned acute pain at the part, and a distinct tumor, well defined, in the course of the carotid artery, pulsating in every position, whatever relaxation was given to the part, and accompanied by the characteristic thrill and bruit of aneurism. On succeeding examinations several of the signs were at times absent, and it was discovered that the tumor was adherent to the œsophagus, and moved with it.

Though the idea of its being aneurism was considerably dissipated, much difficulty attended the diagnosis—what was it? was it an enlarged gland? I thought not—such glandular tumors do not often become adherent to the œsophagus or the trachea, neither are they usually thus rapidly produced; still we sometimes observe such a tumor quickly developed in the groin as a consequence of violent exertion, but then they are usually painful, and do not remain stationary. Then might it be a pouch developed in the œsophagus by the violent straining, causing a kind of hernia of this canal? All these speculations may have their proper value determined hereafter, but at present no decided conclusion can be come to.

### *Calculus Vesicæ.*

John Belcome, ætat. 56, was admitted into the Westminster Hospital, Oct. 7th, with symptoms of stone in the bladder. The account he gives of himself is as follows: two years last April he began to observe that the desire to make water was more frequently felt than formerly, that the urine in its passage was now and then suddenly interrupted, and that gradually the inconvenience increased. Five weeks before admission those symptoms had become so troublesome as to oblige him to desist from his ordinary employment as an agricultural labourer.

At the time of his admission, although the symptoms distressed him a good deal, the bladder not tolerating more than 1 or $1\frac{1}{2}$ oz. of water, his general health did not appear to have greatly suffered. On the succeeding day a sound was passed, and a calculus was struck.

The urine was then examined, and with the exception of a slight excess of lithate of ammonia, the salts were normal. Upon the application of heat nearly a fourth of the height of the fluid in the tube became solid—albuminous.

A consultation was held upon the case, and the fact of the existence of so large a quantity of albumen was considered, an the conclusion come to was, that it prob bly resulted from the irritation excited in the kidney by the presence of the stone in the bladder, and that it did not, therefore, contraindicate operation.

After some days of preparation he was again sounded for the purpose of ascertaining the exact seat of the skin. As on the former occasion, it could only be felt by tipping up the instrument and bringing it towards the symphisis pubis; and from this position, neither jumping down from a chair nor any other shock would dislodge it. By the 18th October, the day on which the operation was performed, the albumen though less in quantity was still considerable.

*Operation.* — The external incision was made in the usual way, and was about three inches long: when Mr. Phillips got his finger into the wound beyond the second joint, he became sensible of the usual depth of the perineum; as he could then barely distinguish the staff, and when the finger reached its groove very little of the indicator finger remained out of the wound; added to this, the prostrate was so large and so hard that the knife did not easily pass through it, and when it had done so not more than an inch of the handle remained outside of the wound. The bladder too was so small and so intolerant of fluids that it could not be made to project. Some difficulty was experienced, from the fixed and inconvenient position of the stone, in getting it between the blades of the forceps; when this was accomplished the removal was comparatively easy. A piece of oiled lint was passed into the bladder to conduct the urine. All went on without drawback till the eleventh day, when he had a rigor, but it did not lead to mischief.

On the 16th day the urine passed freely by the urethra. For a time the urine was heavily charged with lithates, and the wound became encrusted with them; but under pareira brava and liquor potassæ it was gradually brought to nearly a healthy condition, and on the 16th day the urine which passed by the urethra exhibited only faint traces of albumen when treated by nitric acid and heat.

On the 20th day the perineal wound was rapidly healing; but on the 18th day, after a severe rigor, it reopened, and the whole of the urine passed that way again. By the 22d day it was again closed, and the urine passed along the urethra; and in three weeks more he was discharged cured: the urine free from albumen.

Remarks.—In this case the existence of so large a portion of albumen in the urine

induced some doubt as to the propriety of performing the operation, but after maturely weighing the value of this adverse circumstance, it was decided that the operation afforded the best chance of recovery to the patient.

This point is one of great interest in practice, and it has been laid down by an eminent authority, that under such circumstances it is imprudent to operate at all. Whatever may be the value of that rule in other cases, I am by no means satisfied of the propriety of its application in cases of stone in the bladder; and if it had been acted upon in the present case the patient would still be suffering from his disease.

The question is undoubtedly a very delicate one: does the albumen result from irritation within the bladder extending to the kidney, or is the irritation confined to the kidney itself? In the one case removeable by operation, in the other beyond its reach. I know no test by which we can distinguish between them, but the present case is a proof that such a distinction does really exist, though we are at present unable to detect it.

The stone in the present case was not too large to be readily crushed, and taking the age of the subject into account, that operation seems to have been indicated; but the stone lay so securely upon the pubis, and was so immoveable there, that it would have been almost impossible to grasp it; and we were therefore driven to the old operation.

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### CONCEALED PREGNANCY AND DELIVERY, WITH SUSPECTED CHILD-MURDER.

ALL that remained of the body of the child in this case was one or two convolutions of the small intestines, filled with meconium; the remainder of the body had been devoured by a dog. The statement of the prisoner was as follows:—That she had menstruated once sparingly after connexion; that at one A.M. she was seized with labour pains, and delivered in about an hour thereafter of a child, which appeared small and premature; that she divided and tied the cord, and hid the body in the straw of the bed; that during the following day she went about her work in the house and the field as usual; that at two P.M. the placenta came away about the size of the fist, and that she then buried the child. Among other questions raised in this case, it was asked, whether, from the appearance of the intestines presented for examination, and from the inspection of the mother, any inference could be deduced with regard to the truth of her statement as to the immaturity and non-vitality of the child? To this the following answer was given:—The only portion of the child presented for inspection is a piece of the small intestine, about ten inches long; the mucous membrane is already putrid; the smooth, white, thin, and almost transparent appearance of the muscular coat, the thinness of the serous tunic, the absence of fat in the mesentery, and the distension of the intestine with meconium, gave tolerably strong grounds for the belief that the fœtus was only of seven or eight months' gestation. This supposition is strengthened by the very trifling relaxation of the maternal genitals; the very slight marks of delivery; by the distension of the abdomen not having been sufficient to be observed by others; and by the delivery having been almost without pain. It is not probable that the child was born alive, but this fact cannot be ascertained with certainty. The presumption is, that the mother did not wish the child to die, as she tied the cord.—*Northern Journal of Medicine, from Henke's Zeitschrift fur die Staatsarzneikunde*, No. vii. 1844.

### SPONTANEOUS RUPTURE OF THE SPLEEN.

A CASE of this rare occurrence has recently been related by Dr. J. B. Palter, of Canal Winchester, Ohio, in the Western Lancet, for January 1845. The subject of the case was a man 35 years of age, of good habits, who had enjoyed uninterrupted health, with the exception of five or six paroxysms of intermittent fever about 12 months previously. On the 16th of July, 1844, he was attacked with slight fever and malaria, but not sufficient to confine him entirely to his room: he continued in this condition until the morning of the 20th, when he remarked he would be able to resume his labour by the 22d; appetite, which had previously during his illness been poor, good; ate freely of "soup." About 3 P.M. complained of severe pain in the "stomach and belly," followed in a few minutes by vomiting of the contents of the stomach, immediately after which he said his "belly would burst," and that he was dying. Expired at 5 P.M. On a post-mortem examination, "about half a gallon of venous coagula was found, which proceeded from a rupture about one and a half inch long, on the inferior portion of the capsule of the spleen; the parenchymatous structure of the spleen was entirely broken down and destroyed, and constituted a grumous mass, so soft as to be easily washed away; stomach and bowels normal; liver slightly enlarged and congested."

[A case of a similar character is recorded by Dr. Neill in the number of this journal for October 1842. See p. 369.]—*American Journal of Medical Sciences*, April 1845.

## Original Communications.

ON THE

# THERAPEUTICAL PROPERTIES OF ERGOTIN, CHIEFLY IN CASES OF UTERINE HÆMORRHAGE.

By Dr. Ebers, of Breslaw.

[Translated for the London Medical Gazette.]

With regard to the effects of ergotine in uterine hæmorrhage, occurring in the advanced periods of life, I can here allude only to one case. Madame Ph. aged 72, had been subject for more than two years to attacks of uterine hæmorrhage, which occurred regularly almost every month, the catamenia having ceased for upwards of twenty years. She had a tendency to a peculiar inflammatory affection of the chest, and I have attended her eight or ten times for attacks of pneumonia and pleuro-pneumonia, from none of which did any permanent ill consequence result. Unfortunately the several hæmorrhagic attacks were unattended to, indeed were concealed, until at length a very severe and dangerous one occurred. This led to an examination, when there was discovered to be considerable destruction of the uterus from malignant disease; the irritation caused by the hand, which was conducted with the greatest possible caution, induced a profuse hæmorrhagic discharge, which the usual remedies could only mitigate, not arrest; having some of the ergotin by me I made use of it at once, and after a few doses the hæmorrhage completely stopped, and has not yet returned, although without doubt it will do so, because of the progressing destruction of the uterus by the carcinomatous disease.

One of the best cases in which the good effects of ergotin are displayed is the following: Madame G. a married woman, aged 41, had suffered for a number of years from a periodically recurring uterine hæmorrhage, together with some hepatic affection, and also especially with an enlarged spleen, which had attained a very considerable size, and which from time to time grew much larger and then subsided again. Her mother had suffered from a similar affection, and shortly after she had ceased to menstruate, had been seized with an attack of hæmatemesis with which she died. The patient in the present case imagined that she had attained the period of life when menstruation ceases, for although the catamenial discharge occurred at its regular times, yet it varied in character, being sometimes very slight, at others attended with the discharge of very large quantities of dark grumous masses of blood, and was accompanied by none of the phenomena usually attendant upon the menstrual period, but frequently with colicky pains, disorder of the spleen, cramp, faintings, and considerable alarm. Sometimes these attacks would be very severe, and be accompanied with all the signs of intermittent fever, and at other times they were attended with symptoms of melœna, such as dark pitchy stools, considerable enlargement of the spleen, with cramps, and considerable exhaustion. An experienced practitioner had attended this patient for a length of time, and had treated her with steel medicines, mineral acids, and cinchona, not without temporary benefit, yet after all her actual complaint was but little if at all altered. Five years ago I attended her for an attack of erysipelas of the head, in the course of which an abscess formed in her face and she was jaundiced; after recovering from this attack, she again became subject to periodical returns of uterine hæmorrhage. She was treated with infusion of secale during the attack, and with steel remedies afterwards, and was relieved, though not cured of the affection, which returned from time to time with greater or less severity. On the 10th of March, 1844, I was summoned to this patient, who had become attacked with an hæmorrhage more than ordinarily profuse. I found her in bed, pale and utterly exhausted, from time to time she fell into a state of cataleptic stupor, from which she was aroused by paroxysms of general convulsions; when she recovered her consciousness, she complained of severe oppressive pain in the region of the spleen, which organ was immensely enlarged, also of pain in the shoulders and of inability to assume the erect posture without causing fits of spasm and fainting: her urine was scanty and bowels constipated. I ordered her a composing draught at once,

and on the following day a purgative electuary. Her condition generally was improved by this treatment, yet the uterine hæmorrhage continued, being characterized by the discharge of dark fluid blood, mixed with large clots, the consequence of which was most complete exhaustion. Under such circumstances, I prescribed the ergotin in two-grain doses every two hours: twelve doses had scarcely been taken before the hæmorrhage completely ceased, so much so that not a trace of blood could be detected in the urine. The sequel was still more important. The patient rapidly recovered, in ten days was able to leave her bed, complaining only of the sense of weight in the spleen, and in a fortnight, though still weak, was able to return to her domestic duties after 28 days; the catamenia returned at their proper time, and lasted for eight days, the patient, during their continuance, experiencing no other unpleasant symptom than the uneasiness in her spleen, and occasional feelings of faintness. Thus, although not cured of the old-standing disease, yet she was in a very short time delivered from a condition of imminent suffering, and restored to a state of health and cheerfulness she had not enjoyed for a length of time.

Although it would be precipitate to draw any very positive inferences from the foregoing observations, yet at least they seem to prove the powerful and curative effects of the ergot of rye, and that ergotin, as prepared from it by the above-described process, is a remedy which, at the same time that it is free from the poisonous effects which frequently follow the employment of secale itself, when given in sufficiently large doses, exerts a most powerful influence on the system, and is not attended with any prejudicial or even uncomfortable consequences. It must be observed, however, that in the case of Madame G. the sudden cessation of the hæmorrhage produced much congestion of the liver and spleen, which, however, was removed by the suspension of the ergotin, and the free employment of purgatives. With this exception, no ill consequences of any kind have resulted from the use of this remedy in the several cases under my observation, although the causes of the hæmorrhage were various, and the cases presented nothing in common beyond the excessive exhaustion consequent on loss of blood: still, it is easy to suppose that injurious effects might readily result from the employment of a remedy which exerts so powerful an effect on the contraction of the vessels, or possibly on the condition of the blood itself. It will be by no means right, therefore, suddenly and indiscriminately to check hæmorrhages of all kind, and it may be a question whether ergotin is admissible in cases of the so-called active hæmorrhages, which certainly are rare, or in hæmorrhoidal bleedings, as in every case of hæmoptysis, there is certainly need of much caution in the free and general employment of this remedy. On the other hand, it is highly important, both for medicine and surgery, that so powerful and valuable a remedy should be generally adopted. With regard to its therapeutic action, it will be for organic chemistry to solve the problem, and to declare in what way it exerts its powerful effects; so far as our knowledge of it extends, our employment of it is purely empirical. That it does not act merely as a mechanical agent, and that it must exert some real influence on the animal economy, seems evident from the observations already made with regard to the action of secale itself. Its effects have been considered to be due to the contraction of vessels, or of the muscular fibres; a conclusion to which all the other phenomena induced by this remedy is entirely opposed. Moreover, secale contains no principle which could at all justify the acceptance of such a view, and in its chemical condition it has no relation to any acid, or any principle of tannin; on the contrary, it contains principles, such as (according to Wright) osmazome and gluten, which prove, if not its origin from, at least its connection with, the animal economy, and justify the conclusion of Debourge, which must not be overlooked, that its constituents are allied to those of fungi (Wright, Wiggers), and therefore it ought no longer to be regarded as possessing any true styptic effects; but further investigations into its mode of action ought to be directed to its effect on the nervous system, and on the vital qualities of the blood.

It yet remains to be proved whether ergotin is in reality free from those pernicious and poisonous principles

which have been found in secale. As continued researches are being made with regard to other substances, such as veratrine, quinine, preparations of iodine, &c., no doubt there will not be wanting observers who will consider this new and important remedy worthy of further investigation.

## Part II.*

The chief and most important effects of ergotin, as before stated, are observed in cases of uterine hæmorrhage, whether chronic or acute, whether dependent upon a dynamic or an organic cause, and in but one case have I had to doubt its efficacy, and that was where the hæmorrhage occurred in a young unmarried female, and was the result of injury. Respecting the case of Madame G., this patient, a few weeks afterwards, in consequence of exposure to wet and cold, became attacked with rheumatic fever, and with this occurred a fresh return of the hæmorrhage, in which the good effects of ergotine could not be procured because so much gastric disturbance accompanied the rheumatic attacks that the stomach would not tolerate the use of this remedy, the administration of it immediately causing nausea and vomiting. Upon the subsidence of the febrile attack, however, the ergotin was again tolerated, and the hæmorrhage speedily ceased, though whether the result of the ergotin, or simply the consequence of rest necessarily entailed by the rheumatic attack, could not be clearly ascertained. At the end of about four weeks the hæmorrhage, however, again presented itself, upon which ergotin was immediately ordered, and produced its good effects at once: since that period, upon any signs of hæmorrhage making their appearance, this patient at once takes a few doses of ergotin, and is speedily restored to health. As was before observed, this patient also suffers from enlarged spleen. This being the case, the idea suggested itself to me of trying ergotin in those cases of hæmorrhage from the spleen [melœna hæmatemesis] that are partly congestive, as in young persons, partly also inflammatory. It would be superfluous to discuss here the diagnoiss of splenic hæmorrhages, which in themselves are highly important, and frequently are difficult to discover: I will content myself with referring to a classical essay on the subject, by Marcus (Ephemeriden, 1811, iii. 1). In those affections of the spleen, however, which frequently accompany intermittent fever, —especially the spring fevers, which are usually tertians, not the autumn ones—where this organ is congested and loaded with blood, and where blood is poured out into the stomach, excites vomiting, and when thrown up presents a dark colour—not the result of chemical action, but because of being laden with carbonaceous matter—where, consequently, the spleen is *chemically* disordered, or commencing to be so—in these cases is the employment of ergotin indicated for the purpose of arresting the hæmorrhage. In two such cases, the subjects of which were stout, previously healthy young men, I have known the ergotin arrest the hæmorrhage at once after all other remedies had completely failed. In the one case, in which the hæmatemesis supervened on the cessation of quotidian ague, it required but a few doses of ergotin to arrest the hæmorrhage and remove all the threatening symptoms. But it must be observed, that a perfect cure of the complaint was not thereby effected, for the patient suffered for a considerable time afterwards from enlargement of and deep-seated pain in the spleen; though eventually, under the use of quinine and mineral acids, the organ diminished in size, and the patient was restored to perfect health. In the other case, a healthy mechanic was affected with pain in the region of the spleen, hæmatemesis, syncope, on sitting up in bed, and dyspepsia, symptoms indicative (according to Marcus, pathognomonic) of commencing inflammation of the spleen. Venesection, purgatives, and other remedies, were made use of, but without avail, the hæmatemesis constantly returned; at length a few doses of ergotin were adminstered, and the hæmorrhage was at once arrested. I would observe here, that hæmatemesis is by no means invariably attendant upon inflammation of the spleen, as Marcus would imply: it is very often not so, and it would be wrong to make use of ergotin in such cases as a prophylactic remedy.

* An interval of about eight months occurred between the publication of the first and second parts of the above paper.

In the case of Madame P., aged 72, which I mentioned in the first part of this paper, the hæmorrhage constantly returned, but was at each recurrence arrested by a few three-grain doses of ergotin. This remedy is always kept ready in the wards of All Saints' Hospital for the use of the patients affected with malignant disease of the uterus, and directly any hæmorrhage shows itself a few doses of ergotin are administered, and in no one case has the remedy failed in its effects. Although it is not possible to cure these unfortunate patients, yet we are bound to endeavour the accomplishment of at least a portion of this desirable result, and to alleviate—even remove for a time—one of the most formidable of their afflictions. These hæmorrhages prove fatal, partly from a sudden loss of a large quantity of blood, almost immediately after which the patients die from utter exhaustion, and partly from that kind of exhaustion which is gradually induced by frequent returns of hæmorrhage, even though the loss of blood at each time be but trifling. The hæmorrhages to which such patients are liable constitutes one of the most troublesome and distressing occurrences both for themselves and their attendants: also for the medical man, who possesses no certain means of arresting the hæmorrhage, whilst the remedies recommended, such as injections, frequently fail; moreover, these latter annoy the patient, produce and increase pain, and unfortunately are seldom made use of, especially in the wards of a hospital, with that care and attention which they require, and with which they ought to be performed, if any real benefit is expected to be derived from the employment of them. It must, therefore, be regarded as a great acquisition, in the treatment of such unfortunate cases, to possess a remedy, the effects of which are almost certain in the great majority of cases, and which produces no prejudicial consequences even though administered in large doses. There are some cases, though very few, in which ergotin has been administered to the extent of half a drachm daily.

Madame B., a woman of delicate health and hysterical disposition, was on the 10th of June, after a long fatiguing walk, attacked with hæmorrhage from the uterus, accompanied with pains like those of labour. I was informed by her relatives that once before she had a similar attack whilst in the third month of pregnancy, and that she was at that time bled from the arm with advantage. Accordingly, I ordered her again to be bled, the effect of which was the temporary cessation of the hæmorrhage. In about 48 hours the hæmorrhage again returned; I now prescribed three grains of ergotin every two hours; in about 48 hours the hæmorrhage diminished, and then gradually ceased: it appeared slightly again in a few days, but the 21st of the month the woman was restored to perfect health.

In another case, in which a young woman had suffered both before and during pregnancy from a periodic uterine hæmorrhage, which had greatly exhausted her, the ergotin was prescribed, with the most favourable results. At various times I have had under my care, particularly in hospital practice, numerous cases both of acute and chronic uterine hæmorrhage, in all of which a perfect cure was effected by means of ergotin. In chronic cases, however, the hæmorrhage was not always speedily checked, especially when there had been much exhaustion, also in those cases where the uterus had undergone organic changes, particularly commencing scirrhous induration, or where swelling and softening of its tissue was observed, yet without actual destruction of any kind being discoverable. Cases of such description are by no means rare, and occur very frequently in hospital practice; they are observed even in persons of the utmost purity and morality, as in unmarried females at the critical period of life, or at times when the sexual impulse has arisen and been suppressed by a great moral effort; also in cases of the very opposite condition, as in lascivious women, who have frequently gratified their sexual desires, yet without having borne children. In both sets of cases the result is the same—congestion and consequent irritation of the genital organs frequently induced, and the nervous system as often excited; and the danger to be feared in each is lest the formation of some malignant disease of the uterus (which is a frequent but by no means a constant occurrence) should take place. Some die from hectic, either simple or com-

bined with pulmonary disease; others become subject to constantly recurring attacks of hæmorrhage, whereby a state of confirmed anæmia is eventually induced. In these cases, which are of such frequent occurrence I have often looked about in vain for some remedy which I might apply to the deliverance both mental and bodily of these unhappy patients. I have never been fortunate enough to obtain much benefit from the employment of steel, bark, or remedies calculated merely to support the strength; on the contrary, I have found that where there is so much exhaustion, the chemical state of the system is so greatly disturbed, and the powers of digestion so much impaired, that these remedies, particularly when combined with a nutritious diet, even become prejudicial. Meanwhile I have saved many such patients by means of those remedies which exert a specific influence on vegetative life. One of these remedies that I would mention is animal charcoal, respecting the action of which there has been so much diversity of opinion; some regarding it as perfectly inefficacious, whilst others consider it to be a very powerful effective remedy: for my own part, I have found it beneficial and exceedingly powerful in many conditions of hypertrophy (hypertrophischen Zustände), particularly of the genital organs and of the glandular system of the abdomen; also in cases of scirrhosity of the stomach, a disease unfortunately of frequent occurrence, especially among brandy-drinkers. Charcoal, both animal and vegetable, is undoubtedly a powerful remedy, and when applied at the right time exerts exceedingly beneficial effects, yet we remain ignorant with regard to the mode in which it acts.

Dr. Ebers concludes his paper with some remarks on the advantages which he has found to result from the employment of ergotin, combined with animal charcoal and *aurum muriaticum natronatum*, in obstinate cases of uterine hæmorrhage, dependent upon organic disease of the uterus or when of long standing,—cases in which ergotin alone had failed of producing its ordinary good effects.

The conclusion he arrives at from the results of his numerous observations on the use of ergotin is to the effect that this remedy, as prepared by the above-described process, should be regarded as one of the most valuable discoveries of the present day.

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### ON THE DISEASES OF THE COSTO-CHONDRAL AND COSTO-VERTEBRAL ARTICULATIONS, WITH OR WITHOUT TUBERCLES AND NECROSIS OF THE BONES OF THE SPINE.

Dr. Toulmouche draws the following conclusions from his interesting series of papers, (in the *Gazette Médicale de Paris*, 1845.)

1. That these diseases occur more frequently, and merit more attention, than is generally allotted to them.

2. That the sign by which they are generally indicated, viz. the appearance of an encysted abscess either immediately over the disease, or in the parts adjacent, is not sufficient to establish the diagnosis, inasmuch as such changes may appear in the neighbouring intercostal spaces, and be referred to softened tubercles, or necrosis of the ribs arising from scrofula.

3. That these abscesses contain a serocaseous or homogeneous pus; that the exploration of their cavities by a sound, detects at first merely the soft suppurating lining membrane, and at a later period, when the disease is too advanced to admit of any hope of restoration, the necrotic rib and the articulations.

4. That the necrotic or tuberculous affections of the vertebræ, with similar lesions of the costo-vertebral articulations, have been and will probably continue to be mistaken either for inveterate rheumatism, or circumscribed pleuritic effusion; unless there should be appreciable deformity of the spinal column, or the disease be of long duration.

5. That these lesions will be confined to the spine; while the preceding ones will be commonly regarded as chronic rheumatic affection either of the muscles or deep fibrous tissue. That while the disease is in the cervical region,—the appearance of deep swelling with doughy feel, or obscure fluctuation, difficulty of deglutition, commencing paralysis of the arms, and at a later period, loss of contractility of the bladder, indicate its presence: that when the disease is in the dorsal or lumbar region, the absence of all deformity or tumor, the appearance of paraplegia to a greater or less extent, followed by paralysis of the bladder and rectum, will suggest the presence of disease of the spinal marrow or its membranes, rather than of the vertebral column itself. The diagnosis will only become certain, when there is an abnormal projection of one or more of the spinous processes. On this condition most authors have founded their description of the symptoms.

## CASES OF PELVIC INFLAMMATION ENDING IN ABSCESS.

By Joseph Bell,

Surgeon, Member of the Faculty of Physicians and Surgeons of Glasgow, Lecturer on Botany in the Portland Street Medical School, Glasgow.

[Continued from page 1140.]

### Part II.

The two following cases occurred at the menstrual period.

Case VII., March 23d, 1845.—A thin woman, of a nervous temperament, complains of severe pain over the whole abdomen, extending round to back and loins; surface of body hot; face flushed; tongue moist, and slightly furred; no thirst; pulse 98, full. On making pressure over the abdomen the pain is for a few moments increased, but when continued with firmness for some time great relief is experienced; when the hand is withdrawn, however, the pain is much aggravated, which is also the case when a fold of the integuments is pressed. Pains occasionally shoot down inside of the left thigh.

Last night she was much alarmed by a fire in the neighbourhood, and had remained out of doors several hours lightly clothed; since this she has felt very chilly. Early this morning she took an ounce of castor oil, which has operated freely. Catamenia present since yesterday morning.

She states, that she has had either three or four attacks similar to the present, and on these occasions was always treated for inflammation of the bowels, and she was bled most profusely. On the last attack (ten months since) upwards of eight teacupfuls of blood were taken from her arm within a very few hours. She frequently has fits of hysteria. About six years ago had her first and only child; her recovery was at that time very protracted, she having had an attack of what was called inflammation of the bowels, succeeded by inflammation of the womb. She menstruates regularly.

Fom. Abdomen, et Habt. Pulv. Doveri, gr. xv.

24th.—Pain greatly better; pulse 96; skin cool; feels sick, and has had some vomiting: no dejection. Catamenia continues, but is very scanty.

Cont. et Habt. Ol. Ricini, ℥j.

25th.—Complains of pain occasionally shooting up from left groin to epigaster, and round to back. Pulse 100. On examining the abdomen pressure over the left iliac fossa gives rise to considerable pain, which shoots round to back. A hardness of a circumscribed character is felt in the fossa, over which percussion is dull. Constant throbbing pain has been felt in this spot since last night, and the skin over it feels very hot and dry. Has had one scanty dejection; urine scanty, and contains a large quantity of lithates. No vaginal examination would be permitted.

She states that at the last menstrual period she had considerable pain in the lower part of the abdomen, and that she has never felt quite well since; has had much uneasiness, and occasional pain in the left groin, extending down the thigh to knee-joint of the same side.

Admov. Hirud. xij. reg. iliac sinist. post Catap. Emoll. et Habt. Calomel, gr. xij.; Pulv. Opii, gr. vj.; Ext. Hyosciam, gr. xij. ft. mass et divid. in Pil. vi. Capt. unam 8va. qq. h. Habt. Enema purgans stat.

26th.—Leeches bled well; enema caused great pain, but operated freely; pain in iliac fossa less; that of back still very severe when she sits up. Pulse 110; thirst; tongue keeps clean; perspires profusely whenever she falls asleep; urine scanty, and voided in exceedingly small quantities with much pain.

Cont.

27th.—Urine still very scanty; pains easier; pulse 114. Has had several fits of hysteria.

Cont. et Habt. Haust. Imperial. pro pot. Commun. et Habt. Pil. Aloes et Assafœt. ij. 6a. qq. h.

28th.—Feels very sick; she has been retching severely all morning, and has vomited several times a quantity of greenish-coloured matters. Mercurial fœtor on breath, and her gums are tender and swollen; pulse 118. The hardness in left iliac fossa is increased in extent, and feels distinctly circumscribed, and has assumed a position nearly central: the integuments are quite free from it. Pain much worse,

and extends over the whole abdomen; in iliac fossa is attended with a burning sensation. The quantity of urine passed during the last eighteen hours amounts only to about half a fluid ounce; she has a strong desire to void it. Bowels freely moved.

She was prevailed on to allow me to introduce the catheter, but a few drops only of urine came away. An opportunity was now taken to make a vaginal examination. Vagina hot and dry, and superior wall quite hard and inelastic. The os uteri was low down, and evinced no unusual sensibility to the touch. On passing the finger up along the left side of the uterus a large firm swelling was felt to originate immediately above the cervix, and extend upwards. On touching any part of this tumor the patient experienced severe pain, which shoots round to the back and up to epigaster. The swelling filled the superior part of the left side of the pelvis, and extended backwards towards sacrum. Catamenia ceased yesterday.

Cont. et injec. aq. tepid vag. sæpius fov. abdom.

29th.—Has had several hysterical fits during the night; has voided only about a dessert-spoonful of urine; complains of a burning sensation over the whole abdomen, but less pain; lies semi-comatose; answers questions with difficulty; pulse 120; skin covered with profuse perspiration; severe headache; features have a ghastly appearance; pain of back excessive; has had one dejection, followed by tenesmus. The catheter only brought away a few drops of urine.

Tumor when touched from vagina is still very tender, and feels larger, and towards its lower part yields a doughy sensation to the finger. By placing one hand externally, and keeping swelling steady, the finger of the other hand detects indistinct fluctuation at the depending part in the vagina. She was ordered to lie on the right side and partly on the abdomen, so as to make it pendent.

Contr.

30th.—Has voided about eight fluid ounces of urine; less stupor and pain; pulse 100.

Contr.

31st.—This morning a large quantity of purulent matter escaped from vagina; she has voided since about half a pound of urine, without either pain or difficulty; pulse 76; feels much exhausted; much less pain, and the tumor decreased considerably in size.

April 3d.—Continues to improve; purulent matter still escaping from vagina; urine voided freely, and without any pain; pulse 76; very little hardness perceptible in iliac fossa, and percussion elicits a clear sound. On a vaginal examination the finger detects some remaining swelling of the left side of the uterus, extending upwards; on the same side a little above the os uteri a small softish substance is felt; it is about a quarter of an inch long, and one-eighth broad. Immediately at its base a small aperture into the remains of the tumor is felt by the point of the finger; firm pressure over the hypogastrium causes a small quantity of matter to exude from the opening.

Habt. Tinct. Calumbæ, Syrupi Aurantii, aa. ℥j.; Infus. Calumbæ, ℈j. M. Capt. ℥ij. t. d. To use an astringent injection into vagina. Sulph. Zinc. et Acet. Plumb, aa. gr. iiss. ad Aq. Puræ, ℥j.

Has continued to improve since the last report; discharge ceased; no hardness in the lower part of the abdomen; appetite good; pulse 68. Attendance discontinued.

This was the first case which I had met with of abscess occurring in the pelvis of the female, unconnected with parturition; at least, it was the first instance in which I detected the nature of the disease. From what the patient stated, however, it is highly probable that she had had several previous attacks since the birth of the child, and that her bad recovery at that time was owing to the same affection, She affirmed that her sufferings then, and on the subsequent occasions, were similar, and that she always got better when a discharge of matter took place from the vagina. Her last attack, consequently, can scarcely be said to be unconnected with parturition, but, in all probability, it was merely a return of the complaint, which had its origin immediately after delivery.

I am induced to come to this conclusion, as the affection occasionally returns. In Case III. this occurred. I know another instance in which the abscess burst into the bowels; the patient has since had several returns: indeed, over exertion, such as much

walking, or exposure to cold, is certain to produce a relapse; probably in this case there may be some fistulous opening. Dr. F. Bird has related a case, in which the patient sunk under the third or fourth attack.—(Vide Ashwell on Diseases of Women.)

When I first saw Mrs. C. I thought she was merely labouring under abdominal neuralgia, produced by some irritation of the uterus, brought on by exposure to cold. The relief which she had from Dover's powder confirmed me in this opinion at my second visit. Next day, however, a more careful examination, and the development of new symptoms, led me to suspect the real nature of her illness. The great loss of blood which she had experienced on a late occasion, and her state of general debility, precluded the use of much depletion. The diminution of the quantity of urine, and the pain in voiding it, which was such a prominent symptom in the case, may have been caused by the tumor pressing either on the one or both ureters, and preventing the passage of the urine into the bladder. In Case VI. this deficiency of the urinary secretion also occurred.

The following and last case which I intend to relate, occurred at the menstrual period, and had no connexion whatever with parturition.

Case VIII., August 16th, 1845.—Mrs. Muloy, a native of Ireland: lies on her back; face flushed; complains of severe pain of the abdomen, increased on the slightest pressure, but relieved over the middle regions when pressure is made with firmness; on withdrawing the hand suddenly the pain is aggravated; over the hypogastric and iliac regions every degree of pressure is attended with an increase of pain, which shoots down inside of the thighs and to the sacrum. In the right groin she has an irreducible femeral hernia, but it is neither painful nor tense; pulse 116; tongue dry and furred; thirst urgent; vomiting frequent; bowels tardy. An examination per vaginam detected a considerable enlargement at the posterior part of the uterus, passing backwards towards the rectum; it felt hard, unyielding, and was very painful when touched; os uteri low down and tilted forwards, it was unusually painful; vagina hot and dry.

Disease commenced at the last menstrual period, which was about a fortnight since; at that time she was exposed to cold and damp, had a series of shiverings followed by profuse perspirations, which continued; has had within the last few days several attacks of hysteria; has enjoyed good health previous to her present illness; has had five children, the youngest of whom is five years old. She says that she has been attended by three medical men; the first treated her for strangulated hernia, the second for continued fever, and the third considered her to be labouring under inflammation of the bowels.

Admov. Hirud. x. Vulv. et postea Catap. Emoll. fov. abdom. et Habt. Pulv. Doveri, gr. xv. Inject aq. tepid. vagin. sæpius.

17th. — Leeches bled well; pain greatly better; pulse 100, weak; pressure still causes considerable pain over the hypogastric and iliac regions, which are swollen, and percussion is dull over the hypogastrium immediately above the symphysis pubis; no dejection.

Habt. Enema purgans stat. et contr. alia.

18th.—Enema caused great pain, but has operated freely; she continues to vomit, and pains have returned to the whole abdomen, and are of the same character as on the 16th; pulse 98; skin hot, and covered with profuse perspiration; has had several hysterical fits.

Habt. Pulv. Opii, gr. vi.; Extract Hyosciam, ℈j.; Calomel, gr. xij.; M. et divid. in pil. xij.; Capt. i. 6a. qq. h.

21st.—On the 19th and 20th she was greatly better; had very little pain in the lower part of the abdomen; in the evenings it was rather aggravated. To-day she has had three dejections; at these periods she experienced very acute pain in the lower part of the belly: she says that for an hour after each stool it was most excruciating, much worse than the pains of labour; pressure above the pubis causes great pain; globus; pulse 114.

Contr. To have an Enema of starch and laudanum after each dejection.

22d. — Shortly after visit of yesterday, she had a discharge of blood from the vagina; since this occurred the pain is greatly better, but it is still

severe when pressure is made over either the hypogastric or iliac regions, but in neither of these places can any hardness be detected; there is, however, considerable fulness; dulness on percussion increased. The vaginal tumor feels lower down, and is softer; through the rectum it feels hard and very painful.

Contr.

23d.—Vaginal discharge continues, but is very scanty; has had three attacks of pain, each following a passage from the bowels, but she thinks that the injections mitigate them; mercurial action is evident on the gums and breath; pulse 98; has vomited several times.

Intermit. Pil. et Habt. Pulv. Opii, gr. vi.; Extr. Hyosciam, ℈j.; M. ft. mass et divid. in pil. vi.; Capt. i. 8a. qq. h. Habt. Infus. Calumbæ, ℈j.; Tinct. Calumbæ, ʒij.; M. Capt. ʒij. t. d.

24th.—Vomiting and sickness much better, as is also pain. A most careful examination of the iliac and hypogastric regions failed to detect either hardness or tumor; percussion still elicits a dull sound above the pubis. The swelling in the vagina is softer, and fluctuation is distinctly perceptible to the fingers a little above the cervix uteri; has had one dejection, followed by the usual tenesmus; vaginal discharge ceased.

25th.—This morning, about seven o'clock, a profuse discharge of purulent matter mixed with blood came from the vagina. On examination an opening with irregular edges is felt at the lower part of the tumor, through which pus is made to flow by pressure over the hypogastrium; pain was now very slight; pulse 78, is very weak.

To have some port wine and beef-tea.

26th.—This afternoon she has suffered greatly from pain about the umbilicus and hypogastrium, it is said to be of a twisting or gnawing character, but is not much aggravated by pressure; pulse 84; has had one dejection with less pain; tumefaction at the lower part of the abdomen is quite gone; the sunken condition of this part contrasts strongly with its former enlarged appearance.

Habt. Sol. Mur. Morph. ʒj.

Sept. 10th.—Is greatly improved in every respect, though she has suffered a little from diarrhœa; yet she has gained strength and flesh considerably. There is still some discharge of a thin yellowish matter from the vagina.

To use an astringent injection.

At the first examination of this case I was convinced that the patient was labouring under pelvic inflammation; I believe that suppuration had taken place previous to my visiting her, and besides this, her exhausted condition rendered any extent of depletion unwarrantable. The peculiar features of the case are, its occurrence at the menstrual period, and its being unconnected with parturition. Several cases which took place under similar circumstances have been recorded by others. Dr. F. Bird relates one instance in which the disease eventually proved fatal. Dr. Churchill mentions two cases which were unconnected with parturition, and Andral relates a case, having a still greater similarity to that of Mrs. Muloy. The patient was seized at the menstrual period after exposure to cold; she died subsequently of pleuro-pneumonia. On inspection an abscess about the size of an orange was found behind the uterus, another existed of less size towards the left side, and a third was found to implicate part of the left ligament and fallopian tube and ovary; in fact, the ovary was a complete bag of pus.

I strongly suspect that pelvic inflammation in the unimpregnated female often occurs without its true nature being ascertained, but is often treated either as neuralgia, hysteria, uterine irritation, or rheumatism. I could adduce many examples from respectable writers confirmatory of this suspicion; the two following, however, will amply suffice. The first is from Mr. Taylor, on rheumatism of the uterus. Mrs. H. æt. 24; multiparæ: had a miscarriage during the second month, and lost more than the average quantity of blood; eight days afterwards she exposed herself to a privy, and the next day she had great bearing down pains and a frequent desire to pass urine, which she did under excessive pain and very little at a time. The urine looked of a dirty brown colour, and left a reddish sediment at the bottom of the vessel; great pain above the symphysis pubis; pressure of the hand insupportable;

the pains are greatest during the evening and night, having a remission towards the morning; pulse ranges from 100 to 120 in the evening, and in the morning 80 to 85, a little hard; the skin moist, except at the lower part of the abdomen, where it is hot and dry: when the exacerbation comes on it is accompanied by severe headache and thirst; there is no discharge from the vagina, and the uterus feels hot and tender; the pain is much increased by coughing, sneezing, and even talking, and sometimes as strong as neuralgia. The third or fourth day of the attack she had syncope several times, caused by turning in bed, and cannot lay on any other part but the back, and is unwilling to be moved.

The treatment in this case was antiphlogistic, and she gradually recovered; at the same time a profuse fluor albus appeared.

The next case is quoted from Dr. Copland's Dictionary, and is called rheumatism of the ovary.

Mrs. P. was attacked 15th July, 1821, with the most excruciating rheumatic pains in the loins and limbs, increasing on the slightest motion, or on attempts to turn in bed; she was in profuse perspiration, and her pulse full and about 100. She attributed the attack to sleeping in a damp bed when travelling; she was about 26 years of age, strong, plethoric, and of the sanguine temperament. The catamenia were usually very abundant, and seldom at longer intervals than fourteen days; their occurrence was therefore soon expected: she had never been pregnant. About three days after the commencement of the rheumatic attack, and whilst I was attending her, she suddenly experienced an attack of the most acute pain in the hypogastrium, a little above each groin; soon afterwards two tumors could be distinctly felt in the regions of the ovaria; they were extremely tender and painful on pressure; the pains in the limbs were greatly abated, but pain was still complained of in the loins; all the symptoms continued; urine scanty, high coloured, with frequent micturition; countenance flushed, animated; temper variable and hysterical: treatment antiphlogistic, and four or five days after the attack the catamenia came on, and the pain, tenderness and swelling, gradually disappeared from the hypogastrium.

*Seat and nature of the disease.*—A careful consideration of the cases which have come under my own observation as well as of those published, induces me to believe that the disease has its origin in the great majority of instances in the areolar tissue. During the progress of the cases other tissues I have no doubt become involved, particularly the peritoneal coat of the uterus and its appendages. I agree with Dr. Lever in thinking, that it is hard to conceive that one of the tissues of the parts in question can be seriously implicated without the participation of the others. In some fatal cases dissection has shewn all the coats of the uterus diseased; in others the appendages were wholly involved, and in some the muscles and tissues covering the pelvic bones were affected. Still, however, the history and progress of these instances indicate the inflammation to have existed previously in the cellular substance.

If we reflect on the general pathological characters of tissue, we will be further confirmed in this view.

I need scarcely remind you that this tissue is abundantly supplied to the parts within the pelvis, that the cervix and lower part of the body of the uterus itself has a large quantity of this membrane between its proper tissue and its peritoneal covering, and it is in this that these parts of the uterus are the most vascular.

In parturition may not effusion take place from some of the blood-vessels of these parts? and hence, we would have inflammation set up in the very same manner as effusion into, or injury of the areolar tissue, in any other part of the body originates inflammatory action of a phlegmonous character. Again, even the very change which must occur in the compactness of the cellular tissue of the uterus at parturition, may induce phlogosis and consequent suppuration.

During the menstrual period, I think there can exist little doubt but that the uterine vessels are congested; now if this take place to a preternatural extent, and if the discharge by which this condition is usually received be either checked or suspended,

we can be at little loss to conceive that inflammation may be the result.

With regard, therefore, to the nature and seat of the disease, I agree with Levret, Wainwright, and the majority of the other writers on the subject, that it is simply a phlegmonous inflammation of the areolar tissue, either of the uterus, of its appendages, or of the pelvic walls.

In Cases I. II. VII. and VIII. I have little doubt but that the seat of the abscess was the cellular membrane of the posterior side of the uterus. Bourden mentions a similar instance. In Dr. F. Bird's case the abscess also occupied the walls of the uterus. M. Marchal states that M. Barth has met with many cases in which the disease occupied the same site. In Case VII. though I conceive the inflammation to have originated in this situation, yet it afterwards extended itself to the appendages of the left side.

In Case III. the original seat of the disease appeared to be in the cellular tissue, enclosed in the cul de sac of the peritoneum, which lies between the rectum and vagina.

In Case VI. the whole appendages of the right side were involved in the disease; many similar instances have been observed by Marchal, Churchill, Martin, and other writers on the subject.

In Cases IV. and V. the affection seemed to originate below the deep pelvic fascia; at all events the parts beneath were doubtless involved. The disease in these instances assumed several of the characters of psoas abscess. A fatal instance of this kind is recorded by Perrochaud, (Bull. de la Soc. Anatom.) who calls the disease puerperal psoitis. In this instance the abscess was of enormous size; the muscles were destroyed. Another case of the same kind was met with by Vigla, in which the muscles of the pelvis were reduced to a pulpy mass; the abscess was of enormous extent, it reached up to the diaphragm and across the whole abdomen; the matter eventually made its way into the cœcum. Geireneau relates a case where the abscess was likewise below the pelvic fascia; it covered the whole of the iliac and psosæ muscles from their origin to their insertion in the trochanter.

In the 25th volume of the Medical Gazette, Mr. Thurnam relates five very instructive cases, in which the abscesses were also deep-rooted and numerous, in some instances; which, however, were very complicated, and appear to have been the result of puerperal fever. They were all fatal.

The last case which I shall notice is a very remarkable one, recorded by Husson and Dance. The abscess occupied the left iliac fossa, and reached from the left kidney down into the pelvic cavity. The iliac and psoas muscles were completely dissected, and the whole uterine appendages of the left side were included in the abscess, which ultimately made its way into the cavity of the uterus, by a small aperture a few lines above the cervix. In this case it is doubtful whether the disease originated in the cellular tissue of the uterus and left ligaments, and subsequently extended to the other parts of the pelvis; or whether it had at first commenced in the latter site, and extended to the appendages.

The cases quoted are sufficient to shew that the seat of the disease is subject to considerable variety. Its nature, however, being evidently the same, namely, inflammation originating in the cellular tissue either of the uterus or of the pelvic walls, extending to, and subsequently involving, in many cases, the other tissues, not of the uterus an its appendages only, but even the other pelvic viscera and the abdominal peritoneum.

[To be continued]

## LEGISLATION FOR THE MEDICAL PROFESSION.

During the last Session of Parliament, no less than *one hundred and thirty* Acts were added to the Statute books. Of these *three* only had any reference to the medical profession (8 and 9 Victoria).

C. 14. An Act to exempt ships carrying passengers to North America from the obligation of having on board a physician, surgeon, or apothecary.

C. 100. An Act for the regulation of the care and treatment of lunatics.

C. 126. An Act to amend the laws for the provision and regulation of lunatic asylums for counties and boroughs, and for the maintenance and care of pauper lunatics in England.

It will be seen from this summary that the late Parliamentary session was very barren in respect to legislation on medical affairs.

PRACTICAL OBSERVATIONS

ON SOME OF THE

# MORE IMPORTANT SPECIAL DISEASES OF THE SKIN.

By John Erichsen, F.R.C.S.
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[Continued from p. 18.]

## *Eczema of the Scrotum, Penis, and Anus.*

There are two principal varieties of eczema of the scrotum and neighbouring parts. One is common to children, frequently of a tender age, and is often accompanied by an intertriginous affection of these parts. The other most generally occurs at the middle or more advanced periods of life, and is not uncommonly attended by more or less pruriginous disease.

Eczema of the scrotum and of the inside of the thighs of young children is of a more active character, and is by no means so troublesome as that which occurs in more advanced life. In many cases it appears to be owing to the urine being allowed to dribble over the thin and delicate skin of these parts.

The appearance presented by chronic eczema of these parts in children is very remarkable. The scrotum and integuments covering the pubes, the inside of the thighs and penis, are of a vivid red colour, inflamed and oozing; occasionally covered with soft, moist, greyish, or yellowish scabs, from under and between which a serous fluid exudes in tolerable abundance. At other times they are dry, glazed, and chapped in all directions, being merely covered here and there with thin flimsy scales. These two conditions, the moist and the dry, alternate with one another, being evidences of the greater or less activity of the disease. The parts affected are sometimes bounded by a very abrupt line, and there is always a degree of intertrigo and excoriation from friction between the fold of the thigh and the scrotum. There is also much itching, and considerable distress is occasioned by the occasional dribbling of a few drops of urine down the inflamed surface, when the child makes water. The gait of a child afflicted with this disease is usually "straddling," the legs being kept asunder, and there is much pain and inconvenience in walking.

Exacerbations of the disease taking place from time to time, the vesicular element becomes manifest in the neighbourhood of the affected parts.

When eczema of the scrotum occurs in more advanced life, especially in old men, amongst whom it is by no means uncommon, it is peculiarly obstinate and annoying; the more so as it is not unfrequently accompanied by a pruriginous affection, which very frequently extends to the anus.

When occurring in individuals past the middle period of life, eczema attacking the scrotum usually presents the ordinary characters of that disease in its chronic furfuraceous or squamous condition. The scrotum is much wrinkled, red, dry, rough, and glazed, or covered with thin, peeling, curled, laminated, and dry furfuraceous incrustations of a whitish or greyish colour, which rub off in considerable abundance, exposing cracks and fissures, from which a thin, ichorous, or bloody discharge, oozes. The itching, which is intolerable, and is more complained of than anything else, is much aggravated by any excess in diet, or when the patient is warm in bed. Every now and then, under the influence of some exciting cause, the disease assumes a more active condition, revealing its vesicular elementary character, and thus enabling it to be readily distinguished from prurigo of the region affected.

Eczema involving the anus is always a most troublesome affection. It may be either an extension of the disease from the scrotum and perineum, or it may be confined exclusively to the anus and lower part of the rectum. It is occasionally seen in young children accompanied by intertrigo, or in consequence of the extension of the disease from neighbouring parts, when occurring in adults. It is characterised by occasional vesicular eruption, excoriation, fissures, and chaps, which bleed, and are excessively painful on the passage of the fæces, more particularly if these be hard or lumpy. There is always excessive pruritus; more especially, when the patient is warm in bed, or after standing for any length of time.

Eczema of the anus is more commonly a disease of individuals who

have passed the middle period of life, and is not uncommonly connected with piles. It occurs, however, in younger subjects; thus, I had about a year and a half ago under my care a very obstinate and chronic case of this complaint in a young man between 20 and 21 years of age, the son of a tradesman in my neighbourhood.

The following cases will exemplify the ordinary symptoms and treatment of the two varieties of eczema of the scrotum that have just been described.

Edward Gurling, a delicate fair child, four years of age, came under my care on the 6th of December, 1844, for eczema of the scrotum, penis, pubes, and inside of the thighs, of seven or eight weeks' duration. The skin of the affected parts is red, inflamed, constantly bedewed with a sero-puriform fluid, and covered by thin yellowish-grey incrustations. The disease is bounded by a pretty regular line, and occupies the whole of the parts just mentioned: there is likewise some intertriginous affection of the nates.

The irritation, which is excessive, is much increased by the occasional dribbling of urine over the inflamed surface, and the little patient complains of much pain in walking. The general health is good, but rather delicate. Lint dipped in tepid lead lotion, and covered with oiled silk, was ordered to be kept constantly applied, so as to exclude the action of the air, and to prevent the irritation occasioned by the dribbling of urine upon the inflamed parts, which were ordered to be bathed with decoction of poppy-heads morning and evening. A few grains of Hydrarg. cum Cretâ were given every second night, and an occasional dose of castor oil in the morning. This plan was continued until the 11th, when the parts looked much quieter and better. Zinc ointment was then substituted for the lead lotion, and five drops of Liquor Potassæ, with as many grains of Calomel and Magnesia in water, directed to be taken twice a day. On the 24th he was perfectly cured.

Nathaniel White, æt. 59, of moderate constitution, lymphatico-bilious temperament, pale and sallow complexion, came under my care on the 5th May, 1844, for chronic eczema of the scrotum of more than two years' standing.

The part affected is dry, red, and rugose, traversed in several directions by fissures and chaps, from which a serous fluid exudes at times, and is covered with thin greyish incrustations, some of which are of a considerable size. There is much itching, and occasionally an acute attack of eczema comes on, the part becoming inflamed and oozing.

The patient was ordered to keep a very strict diet, to abstain from all fermented liquors, salted and heating articles of food, and to take 20 minims of the Liquor Arsenici et Hydrarg. Iodidi twice a day, with five grains of Plummer's pill at bed-time, and to apply a mixture of Zinc Ointment and the Unguent Plumbi Acetatis constantly to the part by means of a piece of lint cut to the proper shape. This plan was continued until the end of May, the quantity of Donovan's solution having been increased to 30 minims per dose. The affection of the scrotum was very much better, the irritation had been subdued, no fresh attack of the disease had come on, and the skin was less rugose, did not desquamate, was softer, and altogether much improved. The patient continued the Arsenical until the middle of June, when he was perfectly well. A few weeks afterwards the disease returned, but was soon cured by the same means.

The most useful local applications in cases of eczema of the scrotum are, after any active inflammatory action that may be present has been subdued by poultices, fomentations, or, if necessary, leeches, the application of lint dipped in warm lead lotion, and covered with oiled silk, or the Unguent. Zinci, either alone, or mixed with the Cerat. Plumbi Comp. or Ceratum Plumbi Acetatis, or the Unguent. Plumb. Comp. In cases of eczema about the anus I have found the addition of the extract of belladonna to one or other of those ointments, but more especially to the Unguent. Plumbi Acetatis, a very efficient means of allaying the irritation. The general treatment must be conducted on the principles that generally guide us in the treatment of the more obstinate varieties of eczema. Most dependence is to be placed on the Nitric Acid diluted, or on the Liquor Potassæ Arsenitis, or Donovan's solution, given carefully. Every means will, however,

fail, unless strict attention be paid to diet and general hygienic measures.

*Eczema of the Scalp.*

There is no form of eczema that more frequently falls under the observation of the practitioner than chronic eczema of the scalp; and I may add, that there is scarcely any that is more obstinate and intractable. In proof of the frequency of the eczematous affections of the scalp I find on looking over the notes of several hundred cases of diseases of this region, no less than 43 per cent. are cases of eczema. And this proportion is even not correct, being smaller than it ought to be, as these notes do not include many of the more common forms of chronic eczema that have been under my observation, though they do most, if not all, of the more rare affections of the scalp.

This disease is, as every one knows, most common in young children, being less frequently met with in adults. It may, however, occur at all ages, and, as will be seen by the following table, even as late as the 63d year.

On analyzing 202 cases of eczema of the scalp of which I have got notes, I find that the numbers at different ages were as follows:—

| Age. | N°. of Cases | Age. | N°. of Cases |
|---|---|---|---|
| Under 1 | 28 | 8 to 9 | 7 |
| 1 to 2 | 21 | 9 — 10 | 6 |
| 2 — 3 | 13 | 10 — 11 | 2 |
| 3 — 4 | 29 | 11 — 12 | 1 |
| 4 — 5 | 26 | 12 — 13 | 7 |
| 5 — 6 | 15 | 13 — 14 | 2 |
| 6 — 7 | 13 | 14 — 15 | 2 |
| 7 — 8 | 16 | 15 — 16 | 2 |

In the 17th, 19th, 20th, 21st, 22d, 24th, 25th, 29th, 30th, 36th, 42d, and 63d year, each one case.

From this it would appear that the greatest number of cases, more than one half of the whole, occur during the first five years, after which there is a gradual decline in the frequency of the occurrence of the disease, until the 12th year, when the numbers again increase; what this increase is owing to I have not been able to ascertain; it may, perhaps, be connected with approaching puberty.

This disease, like most of those that occur during early childhood, is very commonly attributed to the irritation of dentition, and correctly so, being no doubt in many instances a salutary effort of nature to relieve the irritation of the process by setting up increased action in some other part; and I have had frequent occasion to observe that children subject to this form of eczema, as well as to other varieties of the disease, suffered more at those periods at which there was increased irritation about the gums, in consequence of the process of teething becoming more active; at all events, the connexion that exists between teething and the appearance of certain cutaneous affections, of which eczema of the scalp is one of the most frequent, would teach us to be very careful in doing anything that might check so salutary a counter-irritant.

It is a popular belief, and, I believe, one that is correctly founded, that late weaning is a cause of eczema, especially of the crusta lactea, the E. impetiginodes, amongst children. Of the 28 cases of eczema of the scalp, mentioned in the foregoing table, as occurring during the first year, only 5 were weaned; of the 23 that were still at the breast 17 were more than 6 months old, only 6 being under that age. The following are the ages of the 17 at the breast:—

| Age. | N°. of Cases | Age. | N°. of Cases |
|---|---|---|---|
| 6 months | 1 | 9 mon. | 3 |
| 7 do. | 4 | 10 do. | 3 |
| 8 do. | 3 | 11 do. | 3 |

Of the 21 cases that occurred between the 1st and 2d years, 8 were at the breast, some of these children being a year and a half or more old.

When occurring in childhood both sexes appear to be equally subject to the disease, which we should expect, the influence of sex not being materially felt before the age of puberty; when occurring after that change, females are much more commonly attacked by it than males; indeed, almost all the cases of eczema of the scalp that I have seen above the age of 17 or 18 have been in females. And in these cases it is almost invariably connected with amenorrhœa or dysmenorrhœa, or, when occurring at a later period of life, with the cessation of the menstrual function.

The occurrence of the eruptive fevers is well known to be a common occa-

sioning cause of this disease in children; as is, indeed, any circumstance that inteferes with the general health; the affection being very rarely excited by purely local causes.

It is occasionally excited by hereditary influence. I saw some time ago, in a case I attended with my friend, Mr. Leese, of Baker Street, a curious instance of the development of this disease in the child, apparently from the influence of the accidental occurrence in the mother, when three or four months advanced in pregnancy, of a very severe attack of eczema impetiginodes of the back, in consequence of the irritation produced by the dressings applied to a wound, occasioned by the removal of a small fatty tumor from that region. Neither of the parents had ever suffered from any cutaneous affection before, and the mother had been delivered of three or four children, who were all perfectly healthy; whereas the one alluded to became affected very soon after birth with a most severe and obstinate attack of eczema impetiginodes of the scalp and the whole of the body.

The children in whom eczema of the scalp most commonly occurs are those with fair hair, blue eyes, and a general hæmatrophy of the system, the texture of whose solids is loose and flabby. It is commonly considered to be an evidence of a strumous diathesis. That it frequently occurs in those children that have a tendency to scrofula, there can be no doubt, but that the existence of this disease should of itself be considered an evidence of this diathesis, is not, I think, warranted by any facts that we are in possession of.

Chronic eczema of the scalp, although presenting considerable variety in its characters, seems to resolve itself naturally into the three following species :—

1. *Simple chronic eczema*, which may assume either a moist or a dry form.

2. *Eczema furfuracea*, corresponding to the porrigo furfurosa of Willan.

3. *Eczema amiantacea*, which is an extreme condition of the last variety.

Simple chronic eczema of the scalp may, as has just been stated, assume either a moist or a dry form.

In the moist variety of the disease there is always a very copious discharge of a thin serous fluid from a number of small openings, the remains of former vesicles, that lie closely scattered on the inflamed and tender surface of the scalp; this discharge, which is of an acrid and irritating nature, is apt to increase the inflammation in that part of the skin over which it flows. If it be very abundant the hair looks as if it had been soaked in a thin solution of gum arabic, being melted together in locks, which have a dirty yellowish-grey moist appearance, and between and under which the inflamed scalp may be seen pouring forth the discharge. As this lessens in quantity soft yellowish-grey scabs will be formed, which gradually losing their moist appearance will be found to resemble those that characterise the dry variety of the disease. In the midst of this, acute attacks of eczema, attended by a great evolution of vesicles, by increased heat and redness of the scalp, frequently occur, adding very greatly to the severity and obstinacy of the disease; and the distress of the patient is very often greatly increased by a chronic inflammation of the eyes and ears, which is a common complication of this form of eczema. As the discharge lessens, and the inflammatory action subsides, the moist passes in many cases into the dry variety of chronic eczema.

The extent to which the scalp is affected in the dry form of chronic eczema varies considerably; there may merely be a few scabs in a few scattered situations, or the whole head may be thickly coated with them.

This variety of the disease is characterized by whitish, yellowish, greyish, or yellowish-green scabs or scales, usually of a very irregular figure and degree of thickness, separated from one another by cracks and fissures which allow the dry red inflamed scalp to be seen. These incrustations are always more or less lamellated, and are usually thinner at the circumference than in the centre, which is the part last separated from the scalp. They are loosened from the skin by being gradually pushed up by the growth of the hairs that traverse and are entangled by them; the part that is farthest from the vertex being the first raised up; the sides are then separated, and when the upper and middle parts are detached the scab falls off, leaving the

subjacent skin dry, glazed, and of a dull red colour. These scabs are most numerous about the vertex, the sides of the head, and the ears. The hair is frequently not at all affected in this disease, and never permanently so, although it may become dry, thin, and brittle; but as it returns to its original strength and appearance as soon as the disease is cured, no permanent baldness ever results.

It is only in particular instances that the two varieties of form in which simple chronic eczema of the scalp occurs, are separated by characters as well and as clearly defined as those above mentioned; in general they run insensibly into one another, varying as any cause may occur to increase or diminish the inflammatory action going on in the scalp. The moist, indeed, has a tendency in all cases, in its progress towards a cure, to pass into the dry form of the disease, and this again into the species that will immediately be described—eczema furfuracea. We must, therefore, in nature expect to find the appearances above described as characterising the two varieties of simple chronic eczema, combined as it were in various proportions which cannot well be described, but the exact characters of which may readily be learnt by observation of the disease itself.

The next variety of chronic eczema of the scalp, eczema furfuracea, is of very common occurrence, and is characterized by a number of thin scales, which vary very considerably in size, and are either moist, adhering to the hairs, or dry and loose. When slight, and of but trivial extent, this disease appears in the form of a few thin laminated scales of a whitish or greyish colour, which are the remains of vesicles that have either shrunk without effusing their contents, or else have contained such a minute quantity of serum, that when it has dried up it has been insufficient to form a scab.

The more severe forms of the disease are usually preceeded by an acute attack of eczema of the scalp, which after passing into a chronic condition gradually assumes the appearances characteristic of the furfuraceous variety. In this state the epidermis appears to separate itself into detached scabs, which are often loosened in considerable abundance in consequence of the patient rubbing himself. Occasionally a few vesicles arise, from which a serous fluid exudes, forming the scales into masses, and agglutinating them and the hairs together. These masses of scales and hair give a soft yielding sensation to the finger when pressed upon, and if they be removed we shall find the subjacent cutis to be red and inflamed.

These scales vary in colour from nearly a pure white to an ash or yellowish-grey, which occasionally passes into a yellowish-brown, and rarely into brown, presenting when of this latter hue a close resemblance to bran. This disease may be confined to patches on the scalp, or it may extend over the whole of the head. The hairs are never lost, but occasionally become thinner and lighter in colour.

When this affection is on the decline the discharge dries up, the scales fall off, separating in large quantities when the patient shakes or scratches his head, so that it is impossible for him to keep his clothes free from them, the pruritus ceases, and the scalp gradually assumes its natural appearance.

The third variety of chronic eczema of the scalp, *E. Amiantacea*, is by no means a common affection. When it does occur it is most frequently as a consequence of the preceding one. As the scales of eczema furfuracea gradually become more numerous, they are collected into thicker masses, which dry on the surface, and assume that peculiar grey, pearly, striated appearance which is so characteristic of the disease, and which resembles sufficiently closely coarse asbestos. In the mass thus composed of an agglomeration of hairs of serous discharge and of scabs, the individual hairs cannot be discovered, as they are collected into bundles, which may often be subdivided into smaller ones, but which it is impossible to resolve into their separate component hairs. When these locks are cut off, and the scales removed by poulticing, the scalp will be seen to be more or less red and inflamed, exuding the serous discharge that binds the hair together. This variety of chronic eczema of the scalp is by no means of frequent occurrence, and is of much less practical importance than either of the others.

[To be continued.]

OBSERVATIONS ON

# GUINEA WORM,

AT CAPE COAST CASTLE.

*For the quarter ending 30th June*, 1845.

By William Robinson, M.D.
Surgeon, West India Regiment.

[*Communicated by the Director-General of the Army Medical Department.*]

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Dracunculus has been remarkably prevalent during the last quarter, and particularly so last month. The worms were situated in the lower extremities, generally about the feet and ankles; in only one case did they appear in the upper extremities, and this man had also one in the scrotum, and several in his feet and legs. His wife was also suffering from them at the same time in both upper and lower extremities. The number in each patient varied from one to six or seven, generally from two to three, and they appeared in succession, seldom altogether.

The native inhabitants of the Gold Coast have also been unusually subject to the affection during the same period.

The dry season continued rather later than usual, scarcely any heavy rain fell near the coast until the beginning of June; but the disease became prevalent before the rains usually set in, and no alteration in the habits or diet of either soldiers or civilians occurred to account for it. The water used by the natives, both internally and frequently for personal ablution, is obtained from stagnant pools in the lower parts of the village, and has the turbid appearance of rice-water, or as if a little milk was diffused through it; but the soldiers use rain-water, collected in stone tanks in the Castle, and they bathe in salt water.

With regard to the mode in which the worms get into the body, even assuming that their ova, or young ones, exist in the pool-water, it is difficult to explain why, if they pass through the stomach, the distal portions of the lower extremities should be their general position. Moreover, as I have stated above, the soldiers use rain-water, and the European residents, as well as the more respectable natives, who do not go bare-footed, are tolerably exempt from the disease; black soldiers have an almost insuperable aversion to their boots, or "barracky for foots," as they call them, and it is scarcely possible to make them wear them constantly when off duty. The position of the worms in the body affords no criterion of the way they enter it; sometimes the head lies towards the trunk, and the tail towards the extremities; at other times just the reverse occurs. Non-commissioned officers and privates, married and single, have all been pretty equally affected.

I believe if any of the fluid contents of the worm touches the skin, or an ulcerated surface, it will occasion the disease. On squeezing a broken or cut worm, a whitish fluid oozes out of the injured end; it consists of minute white granular bodies, floating in a clear fluid. When examined by a microscope, the granules are seen to be either ova, or more frequently little worms, and occasionally both together. When the parent worm has been recently removed from the body, the young ones are usually alive, and move briskly for several minutes. The head is obtuse, and the tail tapers to a fine point, but is *not* curved or hooked: they are quite transparent, and, when highly magnified, they appear from one-eighth to an inch long, about as thick as a strong thread, and tubular, but the highest magnifying power I possess has not enabled me to observe their mouth; most probably a very high magnifier would also show that the ova are mere minute worms. A drop of spirit of wine put on them, when recent, causes them to move in a rapid, irregular, rotatory manner for a few seconds. Such has been the microscopic character of the contents of all the worms I have examined. As numbers of the natives follow their ordinary occupations while labouring under the disease, it seems a fair inference that the ova, or small worms, may get into the water in which they bathe, as well as become mixed up with the dust of the ground on which they walk, and attach themselves to the skin of persons coming in contact with them, as the chigre, in the West Indies, appears to do; it is also a prevalent, and apparently a well-founded opinion on this coast, that a person labouring under the affection may communicate it to another while enjoying sexual intercourse. I believe some medical

practitioners, while they admit the cutaneous origin of the worms, say there *must* be an ulcerated surface for them to attach themselves to; I have seen no reason to agree in this opinion.

The period they remain latent in the body is doubtful; the detachment 1st West India Regiment was a year on this station before any cases occurred: and an English resident merchant has informed me that he became subject to them in Great Britain six months after he left this coast.

The external character of the worms varies according as they are alive or dead; if the former, they are nearly transparent, about as thick as a violin-string, or fine twine, tortuous or straight, according to their position in the body, elastic, and slightly annular. I have seen them retain vitality for upwards of an hour after removal from the body. When dead, they are opaque and flaccid, with the cuticle corrugated; they have varied from several inches to two or three feet in length; the head is always obtuse, and the tail tapers to a fine point, which, contrary to what is observed in the young, is *hooked* at the extremity; occasionally, when drawn out alive, both head and tail have a dark horny appearance, but I have observed no other variety. As they can very seldom be removed whole when situated in the extremities, I have not had an opportunity of examining any perfect specimen with the microscope, and am therefore unable to describe accurately their internal organization.

*Symptoms.*—The appearance of the worm is frequently preceded by considerable local inflammation, and the formation of an abscess, on opening which, some purulent matter, sometimes healthy, but often bloody or sanious, is discharged, and along with it the worm, generally dead, and frequently in detached pieces, comes wholly or partly away. In other instances no inflammation occurs, and the first thing that attracts the patient's attention is an itching pain in the part, where a small bulla is observed; on opening it, the head of a worm appears through a small orifice, from which oozes a little watery fluid. The worm is generally alive in such cases, and sometimes can be drawn out in a few days, but frequently it takes weeks to come away. I have seldom observed much constitutional fever even when the local inflammation was extensive.

*Treatment.*—When the worms appear for any extent immediately under the skin, cutting down on them, and drawing out both ends at once, expedites their removal; care must be taken, when making the incision, to draw the skin a little on either side the worm, so as not to injure it by the lancet—a circumstance very likely to occur unless this precaution is adopted. But when in the extremities they are seldom favourably situated for this practice; if not, poultices and patience, with attention to the general health, seem the best remedies; aloes-leaf, pounded and lightly roasted, is a good and easily-procured substitute for linseed poultice. I have injected infusions of tobacco and opium, also aqueous solution of iodine, into the sinuses, but they only increased the local inflammation. I was led to use the iodine injection from observing that it killed the small worms the moment they were touched with it; but it has not the same effect on the large ones, and did not hasten their removal. Every precaution should be taken to prevent their being broken; but it frequently happens that they become quite softened by the matter surrounding them in the sinus in which they are imbedded, so that the least traction ruptures them, or they are found adhering to the poultice on its being removed.

The violent local inflammation, and severe constitutional fever, which frequently follow their being broken in the body, most probably arises from the myriads of young ones thus effused into the sinus; I think I do not exaggerate in saying myriads, for the microscope shows that in a small drop of the fluid contained in them hundreds exist either as ova or young ones.

The protruded parts of the worm may be rolled round a piece of lint or calico, and a poultice, or water-dressing, applied.

Small abscesses often form in the course of the sinus after the removal of the worms; bandaging is useful after they have been opened.

I have not used any of the various internal remedies which have been tried and failed in the practice of others, but I have tried small doses of iodide of potassium, continued for a considerable time, without any obvious

effect in either expediting the removal of those present, or of preventing others appearing.

In general, there is no contraindication to half diet, and when constitutional debility is induced (as occasionally happens) by protracted suffering from the affection, tonics and a more nourishing diet must be prescribed. The natives depend principally on local applications—herbs of different kinds; but I have heard of, or seen, none which appear to possess any specific virtue in the disease. Assafœtida taken externally is considered by many of them as a sovereign remedy, but it appears to have been repeatedly tried without success.

The mode of procreation of the Guinea-worm is a very interesting, but a very obscure subject, unless we can adopt the explanation of their being hermaphrodites, which Cuvier contradicts, or that they are prolific through several generations without sexual connexion necessarily occurring, as is supposed to be the case in some species of worms.

## CASE OF CANCEROUS DISEASE,

### WITH FRACTURE OF THE FEMUR FROM MUSCULAR ACTION.

By James Kirk, M.C.

E. C. Winder, aged 61, and the mother of one child, has been the subject of cancer of the right mamma for the last three years; she first came under my notice as a district patient in November, 1844, at which time the breast was already in a state of ulceration, and the glands of the axilla being also contaminated by the disease, prevented our entertaining the hope of a cure from the performance of an operation; even had the patient been willing to submit to it.

In these circumstances a palliative line of treatment was had recourse to, and it was attempted to improve and support the constitution as much as possible by the exhibition of alteratives and tonics, as advised by Sir Astley Cooper, in his Lectures on Surgery.

In spite of all these, however, the disease, as might be expected, continued to progress to its fatal termination; the bowels became costive, and the digestion bad; she was much tormented by stitches under the short ribs, and these were followed by very severe pains of a rheumatic character, in the back, loins, and thighs; she lost the power of her limbs, and was confined entirely to bed; and, to crown all, about three weeks ago fractured her left femur, about a hand's-breadth below the great trochanter, while being lifted out of it.

I am assured by her friends, who are perfectly trustworthy, that the limb received no injury at the time of its fracture, but broke apparently under the mere action of the muscles. It was put up in the straight position, but with very little hope of any union taking place; the powers of the constitution being so much exhausted. After this she became rapidly worse, her pains still continued very severe, requiring frequent opiates, the appetite was quite lost, the cough formerly slight got much worse, the stomach became irritable, and she sank three days ago, wasted to a skeleton. Leave was not given to examine the body after death.

I cannot avoid contrasting the above with another case of the same kind, which is still under my notice: the patient, a woman aged 50, after having cancer of the right mamma for 14 years, was so fortunate as to take violent inflammation of the breast, which ended in sloughing, and the removal of the whole of the diseased gland, with the exception of a bit about two inches long and one broad, which stretches across the upper part of the mamma. Healthy granulations sprang up, and filled the chasm left by the removal of the sloughs; new skin closed over them at the sides; and there is now only a superficial ulcer of the size of a crown-piece, which is rapidly cicatrising. So that were it not for that part of the original disease which still remains, one would say that it had undergone a natural cure. As it is, I have doubt but that it will be the means of protracting the fatal termination of the case, and lengthening the days of the patient.

It is worthy of remark, that this woman complains most of pain in the right arm, which is much swollen; while the other, whose disease was in the same breast, complained most of pain in the thighs and legs.

Glasgow, Dec. 18th, 1845.

## A SIMPLE INTRODUCTION TO THE CLINICAL CHEMISTRY OF THE URINE.

*(From a Correspondent.)*

A COMPLETE quantitative analysis of the different constituents of the urine is one of the most difficult problems of medical chemistry; but such a rough qualitative analysis as will show us what are the chief constituents of any morbid condition of this fluid is easy, and most highly useful in practice.

Those who have time to learn their profession thoroughly will not neglect to make themselves well acquainted with Prout's and other treatises on this subject; but for those whom the sight of even a less book than Prout's alarms, the following remarks are intended, as a purely practical introduction to the clinical chemistry of the urine.

This fluid should, for all purposes of examination, be collected perfectly clear from all admixture of dust or other impurities. The morning's urine, passed before taking food, is generally employed, as it is difficult to obtain that passed during the whole twenty-four hours; but the quantity passed during this space of time should be noted; and also it should be ascertained whether this is greater or less than the quantity usually passed by the patient during that space of time. The note should also state what urine was examined, whether the morning's as above, or that passed in the course of the day.

The characters of the fluid should then be observed—best in the glass in which the specific gravity is presently to be taken, its reaction on test-paper, and any sediment that it may have deposited. The latter should be examined under the microscope, for the details of which operation we would refer to Dr. Golding Bird's book on the subject.

The acid and alkaline reaction is best shown by blue and red litmus-paper respectively, these colours giving a more extended range, and thus constituting a more delicate test than the yellow and brown of turmeric paper.

If the urine is acid, turbid, with a red deposit staining the sides of the vessel, we know at once that the urates are in excess; if alkaline, or even acid, of a pale colour, slightly turbid, with a light cloud floating in it, and an iridescent pellicle on the top, we presume the phosphates to be in excess, and this the more if the urine is highly offensive to the smell, and full of mucous strings. A clear pale urine may be found in connexion with hysteria, with Bright's disease of the kidney, or with diabetes. A smoky colour is very indicative of Bright's disease; and a greenish tint should remind us to look for crystals of oxalate of lime.

The specific gravity is best estimated by means of a common hydrometer made for the purpose, contained in a strong glass tube, in which it may be floated when required. The results are not so accurate as those obtained by a specific gravity bottle and a balance, but the facility of application compensates for the little inaccuracies that may arise from its use. It should be allowed to sink gently down to its level, as all the fluid that collects upon it higher up tends to weigh it down, and makes the urine seem of lighter specific gravity than it really is. High specific gravity, that is to say, all above 1025, may denote diabetes, or may result from the patient at the time employing diuretic salts. Low specific gravity, or below 1014, may be connected with granular degeneration of the kidney. The specific gravity, in connexion with what has been already noted concerning the colour and reaction of the fluid, is to guide us in the subsequent application of our tests.

Heat and nitric acid are, for most purposes, enough; their effects are best witnessed in common test tubes, into which the urine may readily be poured, even from a large vessel, by using one tube as the guide down the side of which the fluid may run into the other.

Urine of a low specific gravity had better be heated, and if a precipitate forms, a few drops of nitric acid should be added. If the precipitate re-dissolves, it is to be considered indicative of the presence of the phosphates in excess; if it do not dissolve, but be rather increased by the addition of the acid, it is albumen. It is to be remembered that a precipitation of the phosphates by heat may take place as well in acid as in alkaline urine.

To urine of a higher specific gravity nitric acid may be added at once.

Every precipitate that forms may be uric acid or albumen. To determine this, the fluid should be heated, when the precipitated uric acid will be redissolved, the albumen will remain coagulated. A partial or entire solution of the precipitate by long-continued heat *may* denote so interesting a form of disease that the beginner would do well to call in the aid of a more experienced chemist under such circumstances. The results thus obtained should not be lost; the tubes must be set by for a day, and then it should be noted by the aid of a common pocket measure how high the precipitate stands in the fluid, occupying, for example, half, a third, or an eighth part, as the case may be. The quantity of little crystals of uric acid that have dusted over the inside of the tube should also, at the same time, be looked to.

But, suppose no precipitate forms, a reference to the specific gravity must tell us whether there is anything more to be expected, or whether we may presume that we are dealing with healthy urine. If the specific gravity be high, and the re-agents have produced only slight effects, the nature of the case may tell us whether it be worth while to look for sugar in the urine. This is most satisfactorily effected by means of fermentation; about ʒij. of the urine being introduced, with a little yeast, into a phial with a perforated cork, through which the longer leg of a bent tube passes, and the whole inverted in a cup of water, where another phial, filled with water and inverted, is to receive the short leg of the tube. At a temperature above 60°, any sugar that may be present will begin to be decomposed, and carbonic acid will collect and remain for some time unabsorbed in the other phial. If no gas collects, there is no sugar in the urine; but there may have been albumen which we have failed to detect from not adding enough acid, for a little nitric acid only renders the albumen uncoagulable; forms, in fact, a soluble nitrate, which is not precipitated by heat. A few additional drops of nitric acid will prevent any error from this cause by at once precipitating the albumen.

It remains now only to consider those cases where the urine evidently contains some soluble matter in excess, which, however, is neither albumen nor uric acid, and to notice a few appearances which are sometimes perplexing to a beginner. A free effervescence may arise either from the presence of the carbonate of an alkali or the decomposition of urea, or that of uric acid. The first case might be solved by looking to see what the patient is taking, all neutral salts with vegetable acids being converted into carbonates of that base during their passage into the urine. The second is best determined by setting aside ʒij. of urine in a saucer, with about a quarter of its volume of nitric acid, of course, without having applied heat, when the appearance of crystals denotes an excess of urea. The third is best solved by adding a few drops of any acid to the urine in a tube, and observing, as before recommended, the number of crystals that have formed by the ensuing day.

The flaky precipitates recognised to be albumen may be seen sometimes yellow, sometimes red or pink, or covered with air bubbles. For the present it is enough to state that these appearances result from the decomposition of the uric acid by the nitric acid, which deepens the colour of the urine, or of the urea, or any substances, as above, which effervesce on the addition of this reagent; or, lastly, the yellow colour may arise from there being nothing present to prevent the nitric acid producing this, its ordinary effect, upon animal substances.

There are other things to be attended to—these results are many of them qualified by the temperature at which they have been obtained—but to enumerate them, and to describe the mode of looking for other substances of the highest interest, which are often to be found in the urine, would swell this little essay out, and render it equally alarming, without being one-tenth part as interesting or instructive, as those larger books to which the author modestly offers this as an introduction.

The sum of these remarks is this. That the urine deviates from the condition of health most commonly in a few particular ways, whether by an excess or deficiency of its normal constituents, or by the presence of matters which should not exist at all in the urine. Of the latter, albumen, sugar, and alkaline carbonates, are most to be looked for. The hydrometer will

tell us generally whether there be an excess or deficiency in the solid constituents of the urine; to determine what is deficient requires some skill in chemical manipulation, but the above instructions are amply sufficient for the detection of an excess of any of those constituents that most often are in excess, namely, the phosphates, urea, and uric acid.

## CASE OF HANGING,

### TREATED SUCCESSFULLY BY THE AFFUSION OF COLD WATER.

By Elisha Noyce.

At about 3 A.M., a few weeks since, I was sent for to see a man who had suspended himself by the neck by means of a pair of braces. On arriving, I found he had been "cut down" by his father about four or five minutes before, and, from what I could gather, he had been hanging about two or three minutes, so that, from the time of suspension to the time of my arrival, at least six minutes must have elapsed, during which time he had ceased to breathe. His features were pallid, and the conjunctiva injected with blood; the heart's action continued, although but feebly, the pulse being about 80, and very weak. I endeavoured to perform artificial respiration; but the only pair of bellows I could obtain were so much out of order that this was impossible: I, therefore, threw them aside, and tried the effect of cold water, well knowing the powerful reflex action on the muscles of inspiration which follows its sudden application to the surface. On the first affusion I perceived a gurgling in the throat, and renewed the operation; a slight inspiration directly succeeded. The affusion was frequently repeated, and was followed each time by an inspiration, each more perfect than the last, until the lungs were fully inflated; respiration then continued regularly, accompanied by frequent yawning and sighing.

I bled him to sixteen ounces, which restored him to consciousness, and he has had no bad symptoms since, excepting a severe pain at the back of the neck, which shortly passed off, and he remains quite well.

Red Lion Street, Dec. 1845.

[Remarks.—There is no doubt that cold affusion is an excellent plan for resuscitating the hanged in those cases where the skin still preserves its warmth.—Ed. Gaz.]

### ANCIENT THERAPEUTICS. APPLICATION OF ANIMAL HEAT.

"*De Methodo medendi Morbos per Accubitum Junioris, Cap.* 16.—May y^e^ 19th, 1662, I was called in y^e^ night to Mrs. Change, whom I found very ill of a Cholera Morbus; she had many ugly symptoms, as coldness of the extreme parts, talking a little idly, intolerable sickness, and felt a tingling in her fingers and flesh outwardly. I judge it dangerous to use Dilutients, especially by clysters, in a woman (*sic*) soe green (she having not lain in a month) and the disease pressing so hard upon my heels; soe I ordered her to take a warm cordial, and that a good draught of it, and her Husband to lie close to her back naked, and her Sonn, of 12 years, close to her belly, and to lay on more Cloths: She immediately fell into a moderate Breathing, and all Sympt. ceased: and after enjoyning her to keep her bed y^e^ next day, and to eat and drink nothing save a small Quantity of Barley-broth a day for 2 days, she perfectly recovered."—*Copland's Dictionary of Practical Medicine.*

[Physicians of old employed animal heat for various purposes, and in various forms of advanced disease: thus, in 1673, the notorious Dr. William Sermon recommended the following application in the treatment of the carbuncle of the plague. "Take a live Cock, and pull off the Feathers off his Brest, and apply him to the Botch, keeping him there till he die." When Edward the VIth was in the last extremity, his physicians ordered a live capon to be cloven in two, and applied to the pit of the stomach as a restorative. Previously to this, Cesar Borgia, while suffering from the effects of a strong poison, which he had intended for other purposes, and taken by mistake, employed various remedies of this class, among others, a bath of blood. It is also recorded that "a bull was suspended by its legs to four posts; a large gash was cut in its belly, from which its entrails were taken while it was yet living; and into the cavity thus left the patient stepped to bathe!" These remedies, although very much in accordance with the hideous character of the patient, were doubtless adopted by the advice of his physicians.

This part of the Dictionary of Medicine contains an immense body of facts, which are not ouly useful as subjects of reference, but which may be read and studied throughout with much interest and advantage.—Ed. Gaz.]

# MEDICAL GAZETTE.

FRIDAY, JAN. 9, 1846.

In a letter lately addressed to Coroners by the Registrar-General, we find it stated that the Registration act (6 and 7 Gul. IV. c. 86), has made it imperative in England, to investigate and record the *causes* of every person's death. The object of the inquiry is, that the precise nature of these causes may be determined: that they may be carefully analysed, and that means may hence be devised for guarding against their effects, and for throwing additional security around human life. To be of any use in improving the public health, *preventing crime*, and advancing medical science, the inquiry into the *causes of violent death* must be complete, and must include three classes of particulars. The questions to be proposed in reference to every case of death, ascribable directly to external causes,—are, 1. Was the death caused by human agency? Did the person die by his own hands or by the hands of other persons? or was his death accidental? 2. What was the instrument, force or thing by which death was caused? and lastly—what was the nature of the fatal injury inflicted upon the body? It is further properly stated that few violent deaths can happen, in which at least one or other of the circumstances in this class of facts, should not be recorded.

We quite agree with the Registrar-General, that every return of *violent* death, should state whether the act was one of violent suicide or murder, as well as the nature of the means by which the fatal injury was produced: for without these necessary adjuncts, the verdict of a coroner's jury tends to defeat the objects of the registration act, and to raise a feeling of the insecurity of life, by covering and concealing the perpetration of crime.

It would, we think, be difficult to produce a case, in which a more flagrant violation of these excellent rules has been brought to light than in that of a female named Mundell, for the murder of whom Martha Browning has been recently executed. An inquest had been held before the Coroner for Westminster, who was summoned as a witness at the subsequent trial; and we learn from the report of his evidence, that "*no medical man was examined*, and the jury returned a verdict of '*Suicide whilst labouring under temporary insanity.*'" The prisoner, who was then on trial for the murder, was the first witness examined by the coroner, and so searchingly does the investigation appear to have been conducted, that principally upon her deposition, the jury, under the guidance of the coroner, came to the conclusion that the death of the deceased was due to her own act!

Our readers will here perceive that there is no statement of the *cause* of death, nor of the instrument, force, or thing, by which death was brought about; and, so far as we can ascertain, there was no more proof, or even probability, of the existence of temporary insanity, than there was of suicide! The verdict, however, was so expressed as to serve for an admirable illustration of the old maxim of law—"*in generalibus latet dolus.*" It conveys no information whatever; and, but for a trivial accident, and the force of conscience in the prisoner herself, it would have effectually stifled all further inquiry! In the meantime, the medical evidence, which was considered unnecessary at the so-called *inquest*, clearly proved at the trial that there was no more reason to doubt the sanity of the deceased than of the coroner's jury, and that the alleged suicide was an act of deliberate murder.

The medical witness who appeared at the trial stated, that he had known the deceased four years, and that she was a strong healthy woman, always cheerful, and in good spirits. He was called to attend her when she was first discovered; and he found that she had been for some time dead.

"The face was particularly swollen and livid, the eyes wide open and staring—*blood issuing from the ears and nose*—and a frothy matter, mixed with blood, was issuing from the mouth. A cord, which had been cut from the neck, was lying on the floor. The neck had *two deep lines in front, and only one at the back*, such as would be caused by the rope produced. From the appearance of the neck, it was very improbable that the deceased had effected her own destruction. She died from strangulation by force employed behind. There were three or four pegs over the spot where the body was lying, but they were *too loose* to have borne its weight; and besides the rope was *too short* to have admitted of her hanging herself."

The evidence of this witness was just as accessible to the coroner as to those who conducted the prosecution at the Central Criminal Court; and what a commentary does it afford on the present system of holding coroners' inquests! The law is literally obeyed; the inquest is held "*super visum corporis*," and there the matter ends! We read in the books that a coroner was once committed to prison, and fined forty shillings, because he refused to view a body unless he first received a fee; and we are further told, that "if a coroner take an inquisition without viewing the body, he is criminally to blame;" although we certainly do not agree with the reason assigned, namely, that the view ascertains the cause of the death!* For our own parts, we can discover no difference in the degree of responsibility between one who holds an inquest without seeing a body, and another who fulfils the letter of the law, but evades its spirit by declining to call for information necessary to elucidate the *cause* of death. In either instance it must be regarded as a culpable neglect of a most important public duty.

We cannot find, in the report of this case, a single extenuating circumstance. The verdict stated no cause of death when there were distinct marks of violence on the neck, indicative, at once, of strangulation. The dead body had been already seen by a medical man, to whom the deceased had been known for some years; and who, if he was not asked respecting the cause of death—to prevent a troublesome protraction of the inquiry, and cost to the county—might, at any rate, have thrown some light upon the supposed existence of that very convenient appendage to modern verdicts, "*temporary insanity*." According to the medical evidence, it was clear, from a simple examination of the locality, that the deceased could not have hanged herself; and suicidal strangulation, while it is rare, is usually so well indicated by circumstances, that the most common inspection would soon remove all doubt on the subject. The existence of two deep lines in the front of the neck, and of only one behind, with the effusion of blood from the ears, are circumstances which appear not to have awakened the least suspicion in the minds of the coroner or jury during the "*visum corporis*." They went through the forms of law; and, by their verdict, passed off a palpable and deliberate murder for an act of suicide!

To what can this difference in the results of the inquest and trial be attributed? The jury are commonly so completely under the guidance of a coroner, that we cannot entertain the supposition that he differed in opinion from them. We are, therefore, bound

* Jervis on Coroners, 65.

to believe that he supposed that the female hanged or strangled herself, in spite of the very great improbabilities attending either hypothesis; and that, without possessing any medical knowledge or experience on such subjects himself, he declined to call for information, which *primâ facie* was evidently necessary to a proper investigation of the case. The explanation does not appear to us to be involved in much difficulty. A candidate for the office of coroner is not required to know the signs of hanging or strangulation—it is not even necessary that he should be able to distinguish arsenic from oil of vitriol, a vein from an artery, or the liver from the spleen! In short, no medical knowledge of any kind is required as a qualification for the office; although it is left to this functionary, as in the present instance, to decide *when* a case requires medical investigation (!) and when, not; and, in the event of a medical witness appearing, it is expected that he should be able the facts may require, sift the medical to put those *medical* questions which evidence, and lay it before the jury in a plain and intelligible shape! The law strangely supposes that the power of accomplishing these most useful ends for the public good, must be intuitively possessed by any man who happens to have "an estate in fee," the value of which is sufficient "to maintain the dignity of his office, and to answer any fine that may be set upon him for his misbehaviour." This must be regarded as a somewhat singular qualification for a judge whose duty it is to inquire into the numerous causes of death; but we must look upon it as one of those relics of the olden time with which the Legislature is not at present disposed to interfere. One of the results, therefore, must be, that, unless accident has led to the selection of a competent man, murders will be occasionally passed off for suicides, and, except by the confession of the criminal, the truth will never be known.

Even when the attendance of a medical witness is necessary, the law has made it to the interest of the coroner not to summon him; in other words, to carry on the inquiry without him. A late statute has thrown, *pro tempore*, the advance of the fees for witnesses upon this officer—rather a heavy charge where inquests are numerous, and medical witnesses are frequently summoned; and, although some compensation is allowed by the statute for the advance thus made, yet it is obviously in his power to dispense with medical evidence whenever it so pleases him. We are aware that there are many honourable men acting as coroners who do not regard this as an obstacle to their calling for medical evidence; but we are persuaded it has its influence with others, and we think that the regulation is both injudicious and impolitic.

But we cannot close our remarks without asking whether so glaring an instance of neglect is not to call for some further inquiry. We are told, by a good legal authority, that "if coroners be guilty of *any misconduct* in their judicial or ministerial capacity, they are, according to the circumstances of the case, liable to removal, persecution, or censure*." It is a question which we think deserves grave consideration from the law-officers of the crown, whether, from the mode in which this inquest was conducted, there has not been such a proof of neglect of duty as to deserve, at least, some public notice. What confidence, we would ask, can be put hereafter in any verdicts returned under a coroner who so completely overlooked a plain case of deliberate murder by strangulation?

* Jervis on Coroners, p. 68.

## Reviews.

*Elements of Materia Medica and Therapeutics.* By EDWARD BALLARD, M.D. Lond. and ALFRED BARING GARROD, M.D. Lond. 8vo. pp. 447. Taylor and Walton: London. 1845.

THE frequent changes which are being made in our Chemical and Pharmaceutical nomenclature, and the important additions which the materia medica yearly receives, render it unavoidably necessary that either new editions of old works upon these subjects, or entirely new compilations, should, from time to time, be prepared for the use of students. Of course, works of the former kind must always be most acceptable. A standard treatise, by an able author, can scarcely fail to acquire greatly increased value in every new edition; with each fresh revision it receives additional facts, early opinions are modified or confirmed, unnecessary details are expunged or condensed, and the work altogether gains an accuracy, a terseness, and a completeness of detail, which are seldom found in a newly-written treatise. But, in the absence of new editions of our favourite works, we must be content with the best of the many new claimants for popularity, among which we do not hesitate to assign a leading position to the useful compilation of Drs. Ballard and Garrod. The authors very fairly and moderately introduce their work to the reader, as strictly elementary, admitting that, so far as the description of the drugs is concerned, it is nothing more than a compilation. They have endeavoured to curtail the subject, and it has been a primary object with them "to facilitate its study by arrangement." The work commences with brief therapeutical and chemical introductions, and then proceeds to notice, in detail, the several articles of the Inorganic, Vegetable, and Animal materia medica; the physical properties, mode of preparation, chemical composition, chemical relations, adulterations, officinal preparations, operation and uses, dose, &c. &c. of each medicine being concisely, and, as far as our examination of the details has enabled us to judge, accurately given. Those articles only which are rendered officinal by the London College are admitted into the body of the work; all others which have been considered as deserving of a place in the Materia Medica having been thrown into an appendix, together with those therapeutical means to which a distinct place could not be assigned on the plan adopted. The Appendix therefore contains, among other subjects, accounts of the composition and uses of the principal mineral waters, of the temperature and operation of baths, together with useful remarks upon the mode of application and therapeutic actions of electricity, and some brief observations on blood-letting. The work closes with a copious index.

We entertain a high opinion of the industry and ability of the compilers of this volume, and we therefore recommend it to students as a convenient and useful manual.

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*On the Present State of Therapeutical Inquiry.* By JAMES ARNOTT, M.D. 12mo. pp. 92. King, Brighton, and Churchill, London. 1845.

WITHIN a very moderate space, and under a title which does not fully convey an idea of the variety of subjects discussed in the essay, Dr. James Arnott has brought forward some very ingenious and interesting suggestions. Dr. Arnott is well known to the profession as the inventor of several valuable mechanical appliances for the treatment of various forms of surgical disease. Foremost among the suggestions contained in this work, is one which is intended to combine the influence of cold (or heat) and pressure, by means of an ingenious but simple hydraulic apparatus. The author considers this apparatus to be applicable under a great variety of circumstances, —in local inflammations of the limbs and trunk, in hernia, uterine hæmorrhage, acute cerebral disease, &c. &c. It is thus described:—

"That which I have found a perfect mode of applying cold, is to cover the part with a very thin bladder, of the requisite dimensions, containing a small supply of water of the desired temperature; which temperature is preserved at nearly the same degree by establishing a current through the bladder by means of two pewter tubes; one connected with a reservoir, and having

a stop-cock at its end to regulate the stream; the other leading to a waste vessel. The elevation of the waste-pipe regulates the quantity of water in the bladder; and as, from the change of position of the patient, this elevation must be frequently altered, it is convenient to rest the pipe on the sliding ring of a common retort stand. If the object be to apply cold and pressure to only a small surface, a bladder of the appropriate dimensions, tied to the end of a pewter syphon, and confined to this surface by a bandage, or piece of cloth pinned loosely round the body or limb, will answer the purpose, and constitute an apparatus which may be constructed by the surgeon himself in a few minutes."

Among other instances which the author cites of the beneficial effects of the application of equal pressure and of cold persistently applied, is the following:—

"A lady had been affected for several months with a diffused pain and tenderness in the forearm, preventing the use of it, and depriving her of sleep. The affection had been termed, and probably correctly, a diffused chronic inflammation of the cellular membrane. It had resisted a variety of remedies, amongst the principal of which was a bandage, applied with the greatest care. I adopted the following expedient. Two tin collars, or bracelets, were procured just large enough to slip over the arm, and a circular piece being cut out of both ends of two large bladders, they were firmly tied upon these collars, one over the other. Two pieces of tube were tied into the outer bladder for the purpose of conveying liquid to and from the space between it and the inner one; and in order that this space should not be wider than was requisite, as well as for the purpose of giving strength, the bladders were covered with a piece of calico, in the form of a sleeve, which was likewise tied at both ends to the collars. The arm was now placed in its membranous case, and the water admitted. The temperature of the water, which passed in a slow current, was at first that of the body, but it was gradually reduced to as low a degree as the patient could bear with comfort. The degree of pressure was regulated by the same criterion; it was generally that produced by keeping the end of the water-pipe about a foot above the arm. In less than two days so much relief was experienced as to render the continued application of the apparatus unnecessary." (p. 33).

The author adopted the same apparatus with success in the case of a lady, æt. 67, suffering from a severe injury to the elbow-joint, where, notwithstanding the use of leeches, fomentations, and cold saturnine lotions, the inflammation was extending, and disorganization of the joint was threatened. Immediate ease followed the application of the apparatus, and in less than thirty hours, under a pressure of a column of water one foot high, and with a temperature of 65° and 70°, a check was given to the inflammation, and the swelling was so much reduced as for the first time to admit of an accurate examination of the joint. The usual measures were now substituted as being more persistent, and their continued use would probably have been sufficient; but in accordance with the wish of the patient, who experienced more relief from this than the other means, the fluid pressure was twice again resumed for short periods during the cure.

Some of the above statements have already appeared in our pages, but the value of the treatment recommended, appears to us to be so decided that we have thought it right to give as much publicity as possible to the author's suggestions.

The following cases are interesting, but we greatly doubt if the principle which they involve will be found applicable to practice:—

"The following facts may throw some light on the subject of the action of opium in repressing morbid discharges: I am led to refer to them on account of their recent occurrence. On the 18th inst., I visited the child of a poor woman which had been affected some days with severe diarrhœa. I prescribed a mixture containing chalk and opium, with fomentation of the abdomen. On the evening of the second day of my attendance, as the child was screaming from pain, its mother was induced to administer a large dose of "Godfrey's Cordial." Next morning I found the child in a state of coma, which, until this history of the cordial was reluctantly given, I attributed to that state of the brain which so often, after excessive serous or sanguineous discharges, simulates hydrocephalus. It was with some difficulty that the child was roused from this comatose condition, but, on being so, there was absolutely no disease. Not a vestige of the intestinal irritation remained. It had been at once extinguished by the large quantity of opium contained in the nostrum. Three days after this occurrence I was requested to see another child, which was nearly in the same condition. The discharges from the bowels were still more profuse, and already

hat condition of the brain was approaching which I had suspected in the other case. The practitioner who had first been consulted had prescribed a laxative, and afterwards anodynes and absorbents, but without any check to the violence of the disease. There was a necessity for prompt and decided measures; and not forgetting what I had so lately witnessed, I ordered an injection containing a larger quantity of laudanum than I might otherwise have ventured upon. The stupor that followed alarmed the parents, but the irritation of the bowels immediately ceased, and the recovery was as rapid as in the former instance."

We think that the author's ingenuity occasionally leads him from the safe path of analogical reasoning into the devious ways of hypothesis; this appears to us to be shown in his suggestions of preventing the entrance of air into the cavity of the pleura in paracentesis, by replacing for a time the morbid effusion by another irritating fluid—either pure water or an innocuous gas (p. 15)—and of applying the nitrate of silver directly (by inhalation) to the bronchial mucous membrane in certain diseases of the respiratory apparatus. Neither of these suggestions appears to be based upon sound reasoning. Upon the whole, however, we attach a high value to the contents of Dr. James Arnott's little volume.

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*An Essay on the Use of Narcotics, and other Remedial Agents calculated to produce Sleep, in the Treatment of Insanity. For which the Author obtained the Lord Chancellor's Prize in Ireland, awarded by the President and Fellows of King's and Queen's College of Physicians.* By JOSEPH WILLIAMS, M.D. Small 8vo. pp. 120. Churchill: London, 1845.

THE above title fully explains the circumstances to which the composition of Dr. Williams's Essay is due. We cannot altogether admit that the subject proposed by the College authorities afforded by any means a favourable opportunity for the display of practical and useful knowledge: it is true that the employment of narcotics, and of other means calculated to produce sleep, are frequently, and sometimes very urgently, required in the treatment of insanity; as in cases where long-continued mental excitement appears to threaten the establishment of confirmed mania, and in those instances where a suicidal inclination is the most prominent feature of the disease; but, of course, the idea of adopting a plan which systematically aims at curing insanity by inducing sleep by narcotics, &c., cannot be entertained for a moment. Dr. Williams has, however, pursued a very judicious mode of evading this difficulty in adopting the safe principle that all those remedial means which tranquillize mind and body, and remove or allay excitement, favour the occurrence of sleep, and diminish that restlessness which is so constant an attendant of maniacal furor. In following out his argument, the author has brought under consideration the whole of the leading plans of treatment which are at present adopted in the management of the insane: and, although his remarks are given with much brevity and terseness, they evince very careful research, and sound practical knowledge. His observations upon the effects of the various kinds of narcotics, and his estimate of their comparative value, are remarkably good, and may be consulted with advantage as well by the practitioner as the student. The following observation may be taken as a fair specimen of the author's style and material:—

"From a case which has recently come under my notice, I cannot doubt that hyoscyamus accumulates in the system. A gentleman, for nervousness, was ordered by his physician to take five grains of the extract three times a day; this was persisted in for six weeks, or even longer. Vertigo, syncope, and extreme depression, suddenly occurred; the pulsations of the heart very feeble. Brandy and ammonia were largely administered before the slightest reaction took place. The patient himself, his medical attendant and friends, expected an almost immediate death. The depression continued several days; the heart and lungs did not indicate organic disease; and the symptoms were subsequently referred to a sympathetic affection of the heart caused by the cumulative effects of henbane. The restrictions which had been put on the patient, with his fears, were removed; he was purged, had a good stimulating diet, was allowed to resume his ordinary occupation, and is now in the city daily, quite restored."

We strongly recommend a perusal of this interesting and able Essay: its publication will add to the author's reputation as a diligent and acute observer.

# Proceedings of Societies.

## MEDICAL SOCIETY OF LONDON.

Monday, Dec. 1, 1845.

DR. THEOPHILUS THOMPSON, PRESIDENT.

DR. THOMAS WILLIAMS detailed some cases of renal dropsy in which the urine was albuminous for periods varying from two years to four months, in which a perfect cure was effected. The treatment pursued consisted in the administration of citrate or acetate of iron and hyoscyamus at night.

Dr. ROBERTS detailed the case of a man, aged 62, of convivial habits, who was in the habit of exciting the pharyngeal end of the œsophagus, so as to produce vomiting, whenever the contents of the stomach caused any uneasiness. He became the subject of severe jaundice. The skin was of a deep yellowish-green colour, the conjunctivæ nearly of an orange tint; the urine as dark as porter, and the stools clay-coloured. He never complained of pain in either side, nor did strong pressure in the region of the liver cause any inconvenience. From the large quantity of fat on the abdominal parietes, and also from the tympanitic state of the intestines, no satisfactory examination of the liver could be perfected during life. He lingered several weeks, and died. On opening the body, the liver was found gorged with green bile; the ductus communis choledochus was obliterated at its exit from the gall-bladder. The duodenum and pancreas were scirrhous. The other organs were healthy. The usual mode of treatment, with mercury and counter-irritation, had been employed unavailingly.

Dr. CLUTTERBUCK was inclined to refer all the symptoms to the state of the liver, which he considered to be one of inflammation, and thought that had the patient been depleted, and purged with mild purgatives, he would have had better chance of life. He referred to the case of the late Dr. Birkbeck, who was treated for an inactive liver without benefit; the symptoms were jaundice and dyspepsia, without fever or pain. Mild depletion and mild purgatives effected a cure.

Dr. ROBERTS, in reply, said that at no stage of the malady was depletion indicated. The reference to the case of Dr. Birkbeck did not offer any analogy, as Dr. Birkbeck was a most careful liver, whilst his (Dr. Roberts) patient had been a dissipated man. Such patients scarcely ever bore bloodletting well. He thought the disease had its origin in the duodenum.

Dr. BENNETT regarded the pancreas and duodenum as the organs primarily affected, and that the disease spread to the gall-bladder and liver. He should not have expected benefit from depletion.

Monday, Dec. 15, 1845.

*Delirium cum Tremore.*

Dr. CLUTTERBUCK made some general remarks with the view of showing that delirium cum tremore, as it was called, was, in its essential character, an inflammatory condition of the brain, and required to be treated antiphlogistically. The treatment was, of course, to be modified, with a due regard to the cause of the affection—bloodletting to a very moderate extent, as to two or three ounces, cooling aperients, quiet, cold to the head, and sinapisms to the feet, were the remedies required. He reprobated the use of opium in the disease, and related cases to show that where opium had failed, the plan he had recommended had succeeded in effecting a cure.

Dr. ROBERTS said, that Dr. Ward, of Boston, United States, had many years since advanced the same opinions as those just expressed by Dr. Clutterbuck. He (Dr. Roberts) generally employed opium to some extent in this affection, and with usual success. As an instance of how much opium could be borne in this disease without producing ill effects, he mentioned a case in which, in twelve days, he had administered 2380 minims of laudanum, and 119 grains of solid opium. The patient got quite well. In addition to opiates in these cases, due regard must be paid to the careful administration of the usual stimuli of the patient.

Dr. BENNETT observed, that every case of this disease must be treated on its own merits; opium was very generally used with advantage; its combination with tartar emetic was also very useful in many cases; but oipum would not always cure. In cases of this disease connected with epilepsy, he had usually found gastritis.

Dr. CHOWNE made some remarks on the evils generally of intemperance. Delirium cum tremore occurred under two distinct sets of circumstances. The first was of the sthenic kind, and occurred in the occasional drinker, of strong constitution; here you might have inflammation of the brain and its membranes, and active treatment might be required. In the asthenic form, which occurred in the steady drunkard of a long period, whose health and strength were impaired, the state was one of collapse, and bleeding was not admissible. He related related two cases of delirium tremens, one resulting from hæmorrhage, and the other from excessive loss of blood by venesection.

Mr. ALDER FISHER had usually found this disease occur in persons of plethoric habits. Opium was sometimes successful,

sometimes not. His usual treatment consisted in the administeration of salines with tartar emetic, cold applications to the head, quiet, and low diet. If these failed, he then resorted to opium.

Mr. HIRD has seen much of the disease in Ireland. In some cases there was evidence of congestion of the membranes of the brain; in others, an opposite state presented itself. Some of these cases were best treated with tartar emetic and opium, others with opium alone.

Mr. DENDY characterized the disease as one frequently of inflammation, with excessive irritation. The tartar emetic or gentle bloodletting relieved the one, the opium the other.

Dr. LEONARD STEWART had usually associated the occurrence of this disease with concussion of the brain, or some other shock to the nervous system. He referred to the fact, that the sudden removal of the usual stimulus, even in cases of confirmed drunkards, was not injurious, as was exemplified in the cases of prisoners.

Mr. PILCHER was gratified to hear the statement by the last speaker respecting the harmlessness of suddenly leaving off an accustomed stimulus. The condition of the brain connected with delirium cum tremore might originate in a variety of causes; it was irritation primarily in opposition to inflammation; and where inflammation did occur, it was the result of the irritation. The cases must be treated according to the indications presented.

Monday, December 22.

The Society was occupied this evening with the same subject, and at its rising adjourned until January 12, 1846.

## Correspondence.

### ON THE NEW LUNACY ACT.

SIR,—Your article in the GAZETTE of last week, on the Act of 8 and 9 Victoria, cap. 100, in which you so properly complain of ambiguity of language, induces me to trouble you with a few remarks. That there is *an omission* or *a mistake* in the language of the 45th section, where the certificates of "*two* physicians, surgeons, or apothecaries," are required for the commitment of a lunatic to the licensed house of the insane, is evident. In the 47th section of the same Act, which provides for the admission of a lunatic upon *one* certificate, under certain circumstances, with the requirement of a *second* within three days, the second certificate is to be given by "some other physician, surgeon, *or* apothecary;" without any reference to the fact of whether the former certificate were given by one of either qualification, the only condition being that he shall not be in any way interested in the asylum. But this matter is made still more apparent by a clause in the Act 8 and 9 Victoria, cap. 126, which is the Act for the erection and government of county lunatic asylums, and the 52nd clause or section of which makes provision for the admission of persons, not paupers, into such county asylums. Patients, such as are here contemplated, are of the same classes as those for whom the 45th section of chapter 100 provides; and for these it states that they shall not "be received into any asylum without an order," &c., "nor without the medical certificate, according to the form, and containing the particulars required in, schedule (E), No. 2, annexed to this Act, of *two persons, each of whom* shall be a physician, surgeon, *or* apothecary," &c. That this was the intention I have no doubt, and to numerous certificates which I have seen so given, and to some of which I have been myself a party, no demur has been made by the Commissioners.

Your well-timed remarks on the blundering legislation which usually befals all medical matters, and the judicious letter of Dr. Francis Willis, in the same number of the GAZETTE, induce me still further to call the attention of my professional brethren to this Act, Victoria 8 and 9, cap. 100. I beg them particularly to peruse and to consider the 90th section, which I already find to have a disagreeable influence on private practice, and to be highly offensive and injurious to persons labouring under that amount of physical and mental disturbance which requires change of residence, medical treatment, and some degree of control, but which does not amount to insanity, and which cases no medical man can be found to certify to be insane. Still they are *alleged* to be so, or their personal liberty could not be legally interfered with. For these undecided cases nothing can henceforth be done in private lodgings for their amelioration; whilst in the decided cases a second medical person is to be deputed to visit once a fortnight, provided he be disinterested in the care and charge of the patient.

Now, who is to appoint this medical man, and who is to remunerate him, does not appear, and how he is to have no interest in the care and charge of the patient, otherwise than the attending medical man will have; and his being remunerated according to circumstances, and that receiving his fee "*at least once in every two weeks,*" can only be explained, I presume, by those who, ignorant of medical matters, have yet the temerity to legislate for the medical profession.

I may venture to state, in justice to the framers of this Act, that this clause stood

differently in the original bill; that it received its confusion and inconsistency in its progress through the House of Commons.

I beg to remain, sir, your faithful servant,

J. H., AN OLD SUBSCRIBER.

December, 1845.

SECTION 90. "And be it enacted, that no person (unless he be a person who derives no profit from the charge, or a committee appointed by the Lord Chancellor) shall receive to board or lodge in any house, other than an hospital registered under this Act, or an asylum, or a house licensed under this Act, or under one of the Acts hereinbefore repealed, or take the care or charge of any one patient as a lunatic or *alleged* lunatic without the like order and medical certificates in respect of such patient, as are hereinbefore required on the reception of a patient (not being a pauper) into a licensed house; and that every person (except a person deriving no profit from the charge, or a committee appointed by the Lord Chancellor) who shall receive to board or lodge in any unlicensed house, not being a registered hospital or an asylum, or take the care or charge of any one patient as a lunatic or *alleged* lunatic, shall, within seven clear days after so receiving or taking such patient, transmit to the secretary of the commissioners a true and perfect copy of the order and medical certificate on which such patient has been so received, and a statement of the date of such reception, and of the situation of the house into which such patient has been received, and of the christian and surname, and occupation of the occupier thereof, and of the person by whom the care and charge of such patient has been taken; and every such patient shall, at least once in every two weeks, be visited by a physician, surgeon, or apothecary, not deriving, and not having a partner, father, son, or brother who derives, any profit from the care or charge of such patient; and such physician, snrgeon, or apothecary shall enter, in a book to be kept at the house or hospital for that purpose, to be called "The Medical Visitation Book," the date of each of his visits, and a statement of the condition of the patient's health, both mental and bodily, and of the condition of the house in which such patient is; and such book shall be produced to the visiting commissioner on every visit, and shall be signed by him as having been so produced; and the person by whom the care or charge of such patient has been taken, or into whose house he has been received, as aforesaid, shall transmit to the Secretary of the Commissioners the same notice and statements of the death, removal, escape and recapture of such lunatic, and within the same periods as are herein-before required in the case of the death, removal, escape and recapture of a patient (not being a pauper) received into a licensed house; and that every person who shall receive into an unlicensed house, not being a registered hospital or an asylum, or take the care or charge of any person therein as a lunatic, without having first such order and medical certificates as aforesaid, or who, having received such patient, shall not, within the several periods aforesaid, transmit to the Secretary of the Commissioners such copy, statement, and notice, as aforesaid, or shall fail to cause such patient to be so visited by a medical attendant as aforesaid, and every such medical attendant who shall make an untrue entry in the said medical visitation book, shall be guilty of a misdemeanour."

92, provides that cases so received shall be *visited* by the *private committee* of the Commissioners.

REMARKS.—Our correspondent has since written to inform us, that he has communicated with the Secretary of the Commissioners in Lunacy, on the discrepancy in the two acts, cap. 100 and cap. 126, 8th and 9th Victoria, relative to medical certificates. By section 45 of the former, medical certificates, as we have elsewhere stated (p. 1432, vol. xxxvi.), are required to be signed *by two physicians, surgeons, or apothecaries;* while, by section 52 of the latter, they are required to be signed *by two persons, each of whom shall be a physician, surgeon, or apothecary.* The secretary states, in reply,—"The wording of the respective acts is *different*, but the meaning is the same." On which we have to remark, that the *meaning* of an act of Parliament depends on the *wording;* and that, in a disputed case, the interpretation of the wording rests with the judges, and neither with those who framed the act nor with those who, as commissioners or secretaries, are appointed to carry its provisions into effect. Were this not the case, our statute-book would, probably, not be filled as it now is every session, with acts to amend and explain acts, &c. The intention of the legislators may be plain enough to some, but in the view of the judges, the wording of an act may have a meaning entirely different from that intention.

We cannot agree with the secretary, that the *wording* in the sections of the two acts above mentioned has the same *meaning*; although we have not the least doubt that the intention of those who drew them was the same. As we have elsewhere remarked, we do not pretend to say how the matter would be decided by our judges; but if it were necessary, we could easily adduce cases to show that slighter verbal differences than here exist have rendered acts of parliament inoperative, have vitiated indictments, and have led to the quashing of coroners'

inquisitions. What we complain of is, that with the clear and unambiguous wording of the old statute before their eyes (2 and 3 William IV. c. 107, s. 28), the framers of the new statute should have used words of such doubtful import respecting medical certificates, as to render it necessary to look into another section, or into another act of parliament, in order to find out their real meaning! This is not the proper way of legislating on medical matters.—Ed. Gaz.

## Hospital and Infirmary Reports.

### BIRMINGHAM QUEEN'S HOSPITAL REPORTS.

By John Moore, M.R.C.S.E.
Late Resident Medical Officer.

Case I.—*Dislocation of the patella upwards.*

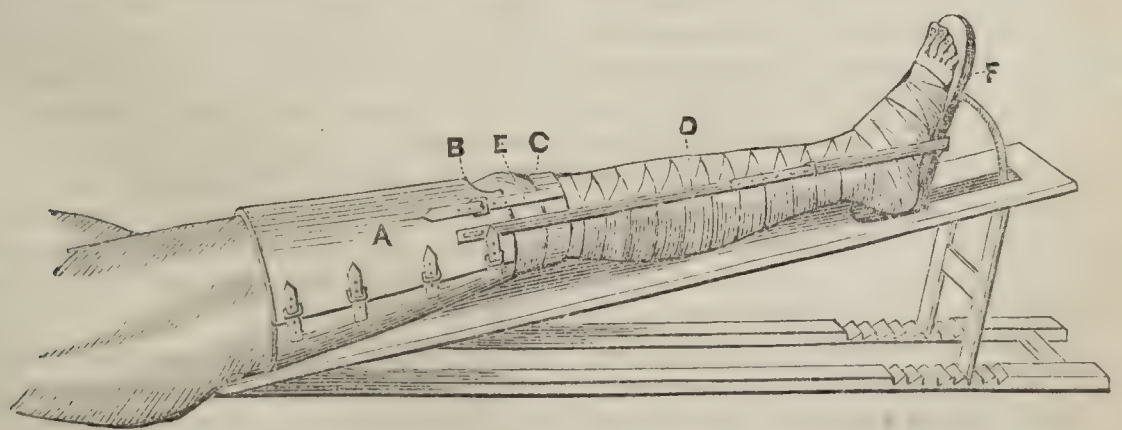
Larry M'Coy, porter, æt. 36, admitted into Victoria Ward, 1, at half-past 9 P.M. February 15th, 1845.

"He states, that about half an hour since, he fell down stairs; that he felt something give way in his left knee, and was unable to rise. He cannot now extend the leg. He is not aware of having struck his knee against any thing at the time of the accident. He is of thin habit of body, and of delicate appearance, but states that his general health is good."

The patient being undressed, and placed on a bed, the symptoms and appearances were as follows, viz.—The natural sharp prominence of the left patella was lost, in lieu of which a diffused swelling occupied the anterior part of the knee-joint; a short distance above the knee, on the anterior part of the thigh, was situated a well defined tumor of about the size of a hen's egg; and continuous with this tumor, above the integument, was, for the space of two or three inches, considerably raised in the mesial line: the natural rotundity of the upper part of the thigh was but little, if any, interfered with. The swelling over the knee-joint was soft and fluctuating, and neither the patella nor any portion of it could be found there. The ligamentum patellæ could be traced upwards, from its attachment to the tuberosity of the tibia, for about three-fourths of an inch, when it abruptly terminated in a rough irregular margin. The patella was discovered to lie upon the anterior surface of the femur, about two inches above its condyles; continuous with it below was felt the upper portion of the ruptured ligamentum patellæ, whilst above could be distinguished the rectus muscle and tendon, strongly contracted and tense.

The leg being extended, the heel much raised, and the body thrown forwards, an attempt was made to draw downwards the patella, but, owing to the powerful resistance of the rectus, no further effect was produced than that of bringing its lower margin immediately above the condyles of the femur. Tartar emetic was now administered in grain doses, but it was not before eight grains had been taken that reduction could be effected; then, as the patient was in the act of vomiting, the rectus became suddenly relaxed, and, without any difficulty, I replaced the patella in its natural position. The patella being now retained "in situ," by an assistant, a bandage was applied to the thigh from above downwards, and another from the foot to the knee; the limb was placed upon an inclined plane, and the trunk raised by means of a bed-rest. Linen cloths, wet with a spirit lotion, were ordered to be kept constantly applied to the knee.

As bandages proved insufficient to maintain the patella in its proper position, I devised the apparatus represented below, which, receiving Mr. Knowles's approval, was made by Mr. Best, surgical machinist to the hospital. This was applied, and found to answer the desired effect.




A, a broad piece of strong leather, lined with chamois leather, buckling on the outer part of the thigh (which it encircles), having a semicircular position, B, removed inferiorly for the purpose of receiving the upper portion of the patella. The thigh-piece is prevented moving upwards by the strap D, which is attached to it and secured

to the foot-board F. A leather band, C, surrounds the limb, below the knee, and is connected to the thigh-piece by the strap E, on either side of the patella.

The advantages of this apparatus are the following, viz.:—The effectual manner in which the equable pressure of the thigh-piece prevents spasmodic contraction of the extensor muscles, and the facility with which the degree of pressure or extension may be modified by means of the buckles, without necessitating even temporary displacement.

I at first employed a separate portion for encircling the patella, but Mr. Best, by making the thigh-piece answer this purpose, has much simplified and improved the apparatus.

No ill consequence resulted from the large quantity of tartar emetic administered, care having been taken after the reduction to procure copious vomiting by repeatedly distending the stomach with warm water. The cure was retarded by the occurrence of subacute inflammation of the bursa mucosa, which lies beneath the patella; this remained much enlarged long after the general dropsy of the knee had disappeared, and, by protruding between the severed ends of the ligament, mechanically prevented their due apposition: it was eventually disposed of by pressure and evaporating lotions, but necessitated a quiescent state of the limb longer than it would otherwise have been observed. In the last week of March, the ligament being tolerably firmly consolidated, passive motion of the knee-joint was employed, and a simple bandage substituted for the more complex apparatus. In the following week the patient was allowed to walk about the ward, and on the 9th of April he was discharged cured.

CASE II.— *Foreign Body in the Œsophagus.*

A case recorded by Mr. Terry, in the Provincial Medical Journal of Dec. 3d, brings to my recollection one of a similar description, which came under my notice in March last.

A child, 10 months old, was brought to the Queen's Hospital, in consequence of having about a quarter of an hour since swallowed a thimble. The child had been seen immediately upon the occurrence of the accident by Mr. Taylor, student of Queen's College, who came with the patient to the hospital.

The patient, whose countenance was quite livid, respired convulsively at unnaturally prolonged and irregular intervals, emitting a low, but sharp crowing sound. The thimble alleged to have been swallowed was stated to be large and rough. Upon introducing my finger into the pharynx, I distinctly felt the circular margin of the open extremity of the thimble, which now and then receded for a moment from my touch, at which times the peculiar sound above mentioned was produced: it appeared to be firmly grasped, inferiorly, by the œsophagus, and anteriorly lay in connection with the larynx, sometimes lying directly over the rima glottidis, and sometimes considerably below it, in consequence of the constant spasmodic contractions of the pharyngeal muscles. Fearing that any attempt to remove the thimble by means of my finger might endanger its becoming more firmly impacted, I passed the blades of a pair of small curved tooth forceps (which were close at hand), guided by my left forefinger, into the pharynx, and opened them with the points directed towards the œsophagus. I immediately felt a metallic substance come in contact with one of the blades, upon closing which I was much pleased to find that I had seized the foreign body. I withdrew the instrument slowly and carefully, (there was considerable resistance), and extracted a large-sized thimble, extremely rough, and somewhat bloody; the child instantly cried vigorously, and its countenance soon recovered a natural colour, the breathing being quite free. I prescribed a dose of calomel, and directed that the child should be brought to the hospital on the morrow. As he did not, however, appear, I presume that no untoward consequence resulted from the accident.

Great Rissington, Gloucestershire,
December 16th, 1845.

## Medical Intelligence.

### THE SYDENHAM SOCIETY AND ITS MEMBERS.

HAVING received several letters inquiring the reason of the delay that has occurred in the issue of the works of the Sydenham Society for the current year, we have ascertained that the Council have at this time no less than five books in the press, two of which were sent more than eight months ago, in the full expectation that they would, long ere this, have been delivered to the members. We are informed that the editors alone are responsible for the delay which has occurred. The second and concluding volume of Simon's Chemistry is advertised to be ready for delivery on the 20th of the month.

Whilst affording our correspondents this answer to their very reasonable inquiries, we cannot refrain from observing that, in some instances, they do not appear to have sufficiently appreciated the services rendered by the Council of this useful Society. We have good reason to know that its affairs

are conducted at the expense of no inconsiderable labour and inconvenience on the part of those whose time is valuable, and who cannot possibly have any other object in view than the good of their profession. Some courtesy is therefore, we think, due to professional men who voluntarily render important services with a view to benefit others. This much we have felt called on to say, although, as the Society is a strictly *private* association, we doubt whether, as public journalists, it falls within our province to interfere with its proceedings.

### PHYSIOLOGICAL APPLICATIONS OF THE MICROSCOPE.

Dr. W. Carpenter has recently given a private course of lectures on the Physiological Applications of the Microscope, to the resident medical practitioners of Manchester. We are informed that the lecturer gave the highest satisfaction to his auditors, and that a resolution to this effect was unanimously carried, and a copy of it presented to Dr. Carpenter by Mr. Noble.

### OBITUARY.

On the 2d inst. William Fergusson, Esq. M.D. Inspector-General of Military Hospitals, in the 73d year of his age.

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*Observations on the Mechanical and Diagnostic Value of the Friction Vibrations perceived by the Ear and by the Touch in Peritonitis.* By Robert Spittal, M.D. F.R.S.E. [Extracted from the Edinburgh Monthly Medical Journal, May 1845.]

In an elaborate statement of various particulars relating to the friction sound which is audible, and the sensation of creaking, rubbing, or vibration, imparted to the touch, which have been observed by Lænnec, Bright, Piorry, and Desprez, in cases of peritonitis, and of abdominal tumor where the apposed serous surfaces were roughened by morbid deposit, Dr. Spittal arrives at the following conclusions.

"That the mechanisms by which the friction vibrations are produced, are of three kinds, viz.:

1. The respiratory movements,—of the diaphragm chiefly,—but also the action of the abdominal muscles; the vibrations being synchronous with these movements, though sometimes developed only during inspiration.

2. Artificial movement of the parts by pressure with the hand, or otherwise; the vibrations corresponding in their rhythm to the movement produced.

3. The peristaltic motion of the intestinal canal, imparting to the vibrations a peculiar, continued rustling, and creeping character to the ear and hand, corresponding to the vermicular motion of the intestines.

That the immediate cause of the friction vibrations is the rubbing together of two peritoneal surfaces, physically altered by the inflammatory process; and, although the effusion of lymph has been considered necessary for their production, it appears highly probable that at a prior stage of the inflammation, when the peritoneum is merely drier than usual, friction vibrations may take place.

That the more the surfaces are moistened, the less intense will be the friction vibrations; and when the liquid effusion is sufficient to separate the surfaces, the vibrations will cease altogether at the part; but by altering the position of the patient, so as to enable the liquid to gravitate to some other part, and thus bring the surfaces together again, the friction vibrations will be renewed.

That the amount of motion between the inflamed surfaces, necessary for the production of the friction vibration, is very limited; and that different modes of friction, as to rapidity and degrees of pressure, may not only modify the intensity, but also the tone and quality of the vibrations.

That the present state of our knowledge does not permit us to connect any particular species of vibration with a certain physical condition of the peritoneum, although reasonable grounds exist for this expectation.

That, although the friction vibrations are no evidence of the existence of adhesions between the peritoneal surfaces, it has not been proved that, in the case of partial adhesions,—and even when the adhesions are general, provided the effused lymph be recent, soft, and extensible, an amount of motion sufficient to produce the friction vibrations might not occur.

That the respiratory abdominal friction vibrations are chiefly manifested at the upper part of the abdominal cavity, where its more solid contents are situated, and in the case of a large organic tumor, and may be regarded as indicative of the inflammation existing over a solid organ or tumor.

Thar the indications from artificial movement of the parts have been perceived, both where tumors were present, and where the intestines alone, or along with the omentum, were the site of the inflammation.

That the peristaltic friction vibrations indicate that the peritoneum investing the corresponding portion of the intestinal tube is the part affected.

That whenever the peristaltic vibrations are *very distinctly perceived*, they may be regarded as indicative of a lively and free motion of the folds of intestine upon one another, and upon the parietes; and of few or no adhesions existing between them. At

all events, it shews that the intestines are not generally adherent, nor matted together into an adherent mass, nor, to any great extent, adherent to the abdominal parietes.

That, in cases of peritoneal inflammation in the upper portions of the abdomen simulating pleuritis, the presence of *any degree* of the peristaltic friction, vibration might very much assist us in diagnosis."

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### CASE OF ABSCESS OF THE TONGUE. BY W. MÖLLER, CANDIDATE OF MEDICINE IN NYKJÖBING, IN ZEALAND.

N. N., locksmith, consulted me about a swelling under the chin. He complained of considerable pain in the root of the tongue, and of a swelling in it which hindered deglutition. On examination, I found a considerable tumor in the tongue, which almost filled the mouth. It was dark red, and I could feel fluctuation by stretching my finger far in over the tongue. There was no time to lose. I wrapped a bistoury in linen, so as to leave only the point bare, and made a longitudinal incision with it. A considerable quantity of thin pus was discharged, and the patient was immediately relieved. I made him wash his mouth with a decoction of yellow roots (guleröddor) in milk. Within eight days the sore was healed. The swelling under the chin came to a height, opened, and was likewise soon healed by emollient cataplasms. The man was 60 years of age, and of a consumptive constitution; and three of his children had died of phthisis. I mention this because I have seen the opinion advanced by several authors, that it is especially those subject to consumption who suffer from abscesses in the tongue. These abscesses are certainly very unfrequent, as the fleshy part of the tongue is not suitable for their formation. — *Bibliothek for Lager, No.* 1 *of* 1844; and *London and Edinburgh Monthly Journal.*

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## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

FRIDAY, *Jan.* 2.—J. H. Budd.—A. Davies.—J. R. Holman.—T. B. Thwaites.—J. B. Gilpin.—J. Welch.—L. C. Heslop.—S. S. Sidebottom.—J. Broadbent.—W. A. Harland.

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## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

WEDNESDAY, *Dec.* 24.—John Growse, Hadleigh, Suffolk.—Thomas Goldesbrough Stockwell, Bath.—William Richard Bridges, Bristol.

## NOTICES TO CORRESPONDENTS.

BIRTHS AND DEATHS IN THE METROPOLIS.—At the time of going to press, we had not received the Registrar-General's Report of the Births and Deaths in the Metropolis for the week ending January 3d. We are, therefore, compelled to postpone the Tables until our next.

Mr. Stallard's cases will appear in our next. A proof shall be sent.

We are obliged to Mr. Rumsey for his suggestion.

A Constant Reader.—There will be two volumes yearly, one terminating at Midsummer, and the other at Christmas.

The length of some of our articles has compelled us to postpone several communications which are in type, including those of Dr. Wardell, Dr. Barlow, and Mr. Pretty. These will be inserted in our next number.

Dr. E. J. Shearman's letter reached us too late for this week's number.

The letter of "A Subscriber," Staffordshire, will be given.

Mr. F. Adams (Banchory).—We can assure our correspondent that the delay has been quite unavoidable. The paper will be inserted either in our next or the following number.

Will Mr. M'Whinnie oblige us by forwarding the paper, when a private communication shall be sent to him.

*Received.*—Mr. Stallard.—Mr. Noyce.—Dr. Brett (Liverpool).

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Just published, 8vo. 14s. cloth,

ON DISEASES of the LIVER; illustrated with coloured Plates and Engravings on Wood. By GEORGE BUDD, M.D. F.R.S. Professor of Medicine in King's College, London.

"We have no hesitation in pronouncing Dr. Budd's able and practical volume an opportune and useful publication. We do not doubt that the digest we have given will induce our readers to seek in the work that large amount of valuable facts and inductions which we can confidently promise them."—BRIT. AND FOR. MED. REV.

London: John Churchill, Princes Street, Soho.

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Just published, 8vo. price 10s. 6d. cloth,

THE NATURE and TREATMENT of GOUT. By W. H. ROBERTSON, M.D. Physician to the Buxton Bath Charity.

"We have read this treatise with much interest, and we are sure that every one that opens the volume will allow that it is not only replete with information brought down to the latest period, and of a very practical character, but that it is conveyed in an agreeable and interesting manner. It is difficult to specify any one part of the volume as more deserving attention than another, for all are ably done."—EDINBURGH MEDICAL AND SURGICAL JOURNAL.

London: John Churchill, Princes Street, Soho.

## Lectures.

### CLINICAL LECTURE ON DISEASES OF THE SUPERIOR MAXILLA REQUIRING OPERATION.

By Samuel Solly, F.R.S.
Senior Assistant-Surgeon.

*Delivered at St. Thomas's Hospital, December* 11, 1845.

When we consider the numerous textures which enter into the composition of the human mouth, and the many important parts which it plays in the animal economy, we need not be surprised to find it the subject of very various diseases. In the course of my clinical lectures I shall have many opportunities of bringing most of them under your notice, and contrasting one with the other. To-day I shall direct your attention to those tumors of the superior maxillary bone which require operation for their removal.

These tumors are very various, both in origin, progress, and effect. They may originate from the teeth, the gums, the mucous membrane of the mouth, of the nose, or of the nasal cavities, as the antrum Highmorianum, &c.

Those which occupy the antrum, as being the most serious, shall be first attended to, and the following case, reported by Mr. Hartnoll, is a good illustration of one class of these diseases.

*Osteo-fibrous tumor of the superior maxillary bone—removed by Mr. Solly.*

James Forstike, æt. 17, farm-labourer, a stout and healthy-looking lad, ruddy complexion, of healthy parents, was admitted Nov. 1, 1845, into Henry's Ward, under Mr. Green, with an enlargement of the right cheek.

About ten months since, according to the lad's statement, the first double tooth of the upper jaw on the right side began to decay, and was accompanied with a great deal of pain; the tooth was extracted, but with no relief of the pain. A short time after this another tooth was drawn, but still the pain remained. About the same time the right side of the face began to swell, and became extremely painful, the pain being of a sharp pricking nature. Leeches and hot fomentations were had recourse to, which, to a certain degree, diminished both the pain and the swelling. It soon, however, again began to increase, though gradually, and without much pain. He then became an out-patient of the Ipswich Hospital, under Mr. Bartlett, a gentleman who formerly dressed for Mr. Green, who extracted the second molar tooth of the affected side, and passed a probe up into the socket; blood, however, only flowed. After being an out-patient of the hospital four months, Mr. Bartlett recommended him to come to St. Thomas's.

*Condition before the operation.*—He has a considerable enlargement of the right cheek. The surface of the swelling is irregular and very firm; not uniformly puffy or discoloured. The integument and subcutaneous cellular tissue are healthy. On opening the mouth, the tumor may be seen protruding, the right gum downwards, to the extent of an inch; it also involves the palatine process of the bone as far as the mesial line, and bulging over the line, but not occupying the bone on the opposite side; this portion does not project downwards so low as the alveolar portion. And in this respect it differs from abscess of the antrum, where this process itself bulges downwards. There is only one molar tooth remaining on this side, and there is a small point of healthy ulceration over one of the alveolar cavities, where it has apparently been punctured. Mr. Solly, who examined the case in the taking-in room, pronounced it one of osteo-cartilaginous tumor of the antrum. Mr. Green having confirmed Mr. Solly's opinion of its nature, recommended the removal of the superior maxilla, which was performed by Mr. Solly on the 8th of November, 1845.

*Operation.*—He commenced his incision at the inner angle of the eye, and carried it downwards round the alar cartilage of the nose into the mouth, cutting through the upper lip, a little to the outside of the mesial line. He then cut from the outer angle of the mouth upwards to the zygoma. The lining membrane of the mouth was next divided horizontally over the alveolar cavities, and the flap dissected upwards from the surface of the superior maxillary bone to the margin of the orbit. The inferior oblique muscle of the eye was divided, and the contents of the orbit separated from its floor. The alveolar process was divided perpendicularly in the mesial line with a small saw, the right central incisor tooth having been previously removed, and then the malar bone, at its junction with the maxillary, was divided with the same instrument. The internal angular process of the superior maxilla was next cut through with a pair of cutting pliers. Mr. Solly next divided the bony palate of the superior maxillary bone with a pair of strong scissors made by Weiss. He then laid hold of the bone firmly, turned it downwards, cut through its posterior connections of this bone to the palatine bone

with a scalpel, and dislodged it. The whole operation did not occupy more than eight minutes.

A good deal of blood was lost during the operation, and the vessels at the posterior part of the wound bled very freely; the hæmorrhage, however, was arrested by introducing pieces of dry lint and German tinder into the back part of the wound, and making firm pressure there. After waiting half an hour, and finding, on the removal of the pressure, the hæmorrhage still continued, Mr. Solly applied the actual cautery, on account of the vessels from which the bleeding proceeded lying so deep and concealed as not to allow of a ligature being placed upon them. A piece of German tinder dipped in a saturated solution of alum was then applied, and slight pressure maintained for another honr, when all hæmorrhage had ceased; after which the wound was dressed, the edges being brought together by sutures and strips of isinglass plaister.

Nov. 8th, day of operation, 10 P.M.—Quiet and comfortable; says he is free from pain. Pulse quick; skin hot.

Ordered—Calomel, gr. ij.; Tinct. Opii, ℥xxx. m. s. c. mane.

9th.—Bowels have been opened once.

1 A.M.—Hæmorrhage came on, and he lost about eight ounces of blood. It was arrested by introducing pieces of dry lint into the back of the wound.

10th.—Sutures removed, and wound dressed. Wound healing.

11th.—Doing well.

12th.—Doing well.

13th.—Pulse quick and feeble. The integument of the forehead a little red and puffy.

Ordered—Cold lotion to the forehead; port wine ℥vj.; eggs.

14th.—Erysipelas better; pulse firmer.

15th.—Doing well.

Ordered—mutton-chop.

19th.—The external wound is quite healed. The internal is filling up, and granulating kindly. Discharge healthy.

At this time (Dec. 8th) he is nearly well. The internal wound is almost healed, and entirely filled up, even with the palatine process of the superior maxilla of the opposite side, and glazed over with mucous membrane, except at a point just opposite to the junction of the palatine process of the superior maxilla of the opposite side with the horizontal plate of the palate bone, where there is an opening into the right nostril about the size of a small marble, and which, perhaps, would just admit the point of the little finger. There is no discharge.

He has progressed favourably since the operation. The only occurrence worth noticing is, that he has had occasional attacks of erysipelas, but which have been very slight, and confined to the integument of the forehead and cheek of the affected side, and have yielded under mild treatment, such as cold lotion, laxatives, and a moderate allowance of wine, with farinaceous diet. There is very little, if any, disfigurement. The cheek on that side (the right) is a little sunk, and there is a slight prominence of the malar bone. The contour of the lips is not perfectly even, owing to a dropping, or falling in, of the flap from a want of support behind; this will be improved in great measure by the contraction of the cicatrix. His speech, too, is somewhat affected, as a natural consequence of the operation, but this is remedied by closing the aperture into the nostril.

Since the operation, gentlemen, I have carefully examined the structure and connection of this tumor. The following is the result of my observations:—It appears to have sprung from the alveolar processes of the first molar and incisor teeth within the antrum; it is not attached to any other portion of this cavity, though it entirely fills it up. It lies upon the palatine process of the superior maxillary, which is roughened by the absorbent action set up by its pressure, and thus reduced to merely the substance of a thin card. The tumor is in contact with the floor of the orbit, but distinct from it. Posteriorly it is nodulated; the nodules round, smooth, and perfect, shewing that the whole has been removed entire.

A section having been made through the centre, its structure appears to be distinctly fibro-cartilaginous, with a slight admixture of osseous particles.

When I first came to these hospitals in 1822, and for some years subsequently, all tumors and morbid growths of the superior maxilla were either considered by the surgeon as hopeless diseases, over which he had no power, and the poor patient was abandoned to an inevitably fatal result; or they were barbarously burnt away bit by bit, or torn piecemeal from their attachments. But in the present day every practical surgeon knows that there are certain forms of disease, incurable and uncontrollable, for which the superior maxilla may be removed with every prospect of success. There are other kinds of so malignant a character that their removal is not justifiable.

This operation is, indeed, one quite of modern date. It is not true, as asserted by Velpeau and many other modern authors, and, I suppose, copied from one to the other, that Acoluthus performed it in 1693; he merely cut and burnt away piecemeal, and on successive occasions, an enchondromatous tumor of the superior maxilla, which is a very

different matter to the removal of the entire bone, as will be seen from the following account. Bordenave, in a paper entitled Précis d'Observations sur les Maladies du Sinus Maxillaires, the first part of which is published in the 4th Vol. of the Transactions of the Academie Royale de Chirurgie, and the second in the 6th, 1774—states, "that Acoluthus, physician of Breslaw, reports, in the Mémoires de l'Academie des Curieux de la Nature, that a woman, about 30 years of age, came, in 1693, from Poland, in Silesia, for advice regarding a particular disease of the maxillary sinus.

"The mass of the tumor was very hard; it filled the greater part of the cavity of the palate, and included in its interior all the teeth of the left side. To facilitate operation in this case, the opening of the mouth was enlarged, by making an incision across the cheek, commencing at the commissure of the lips. By means of this incision the external part of the circumference of the tumor could be reached. It had the consistence of very hard cartilage, yielding with difficulty to the efforts of the operator. He was able, however, to remove two or three teeth with a tolerable large portion of the superior maxillary bone. This part, however, was not above half the tumor, and it was only possible to remove piecemeal the rest that filled up the palatine fossa. The operation was long and laborious, and, according to the expression of the observer, one of the most cruel he had ever seen. The actual cautery was applied upon the orifice of those vessels, which might give rise to hæmorrhage, and also to the fungoid flesh. These last circumcumstances show, that one cannot eradicate this tumor at one time, and that it is by the application of efficacious remedies for several days, that we must reach the desired end. The actual cautery was employed on several successive days, and at different times.

"He had then excrescences at the part only where the tumor had taken origin. An attentive research showed them to be some detached portions of carious bone; the extraction of which was followed by a rapid and complete recovery."

Mons. Velpeau* says, "That the Bulletins de la Faculté de Médecine prove that Dupuytren performed the first operation for the removal of the upper jaw in 1819, and a second in 1824; but that his operation was merely that of amputating or excising the bone," and that to Mons. Gensoul, surgeon in chief to the Hôtel Dieu, Lyons, is due the credit of "having imagined a proceeding which allows of the disarticulation of the jaw upon fixed and precise rules."

On the other hand, Mr. Liston says,† "the merit of suggesting the possibility and advantage of removing the entire superior maxillary bone, when the seat of disease, is without doubt due to Professor Lizars, for several years my colleague in the Edinburgh Royal Infirmary."

As I think that the history of this operation cannot but prove interesting to you, I shall not hesitate to quote the very words in which Lizars first proposed to the surgical profession the performance of it.

"All the cases* that have come within my own knowledge (with the exception of one), wherein these sarcomatous tumors have been removed by laying open the antrum, have either returned, or terminated fatally. I am therefore decidedly of opinion that unless we remove the whole diseased surface, which can only be done by taking away the entire maxillary bone, we merely tamper with the disease, put our patient to excruciating suffering, and ultimately to death. The inferior maxillary bone has now been nearly entirely removed for osteo-sarcoma with success, and I see no difficulty in accomplishing the same with one of the superior maxillary. We secure the common carotid for other tumors of the face, and aneurism by anastomosis; and why not do it for so loathsome and fatal a disease as this? The steps or plan I would suggest for so fatal a disease, are, first, to secure the trunk of the common carotid of the affected side; next to make an incision through the cheek, from the angle of the mouth backwards, or inward to the masseter muscle, carefully avoiding the parotid duct; then to divide the lining membrane of the mouth, and to separate the soft parts from the bone upwards to the floor of the orbit, thereby to detach the half of the velum palati from the palate bone. Having thus divested the bone to be removed of its soft covering, the mesial incisor tooth of the affected side is to be removed; then the one superior maxillary bone is to be separated from the other at the mystacial and longitudinal palatine sutures, and also the one palatine bone from the other at the same palatine suture, as the latter bone will also require to be removed, either by the forceps of Mr. Liston or a saw; thirdly, the nasal process of the superior maxillary bone should be cut across with the forceps; fourthly, its malar process, where it joins the cheek bone; fifthly, the eye, with its muscles and cellular cushion, being carefully held up by a spatula, the floor of the orbit is to be cleared of its soft connexions, and the superior maxillary bone separated from the lacrymal and ethmoid bones with a strong scalpel. The only objects now holding the

* Méd. Oper. vol. ii. p. 626.

† Medico-Chirurgical Transactions, Series 2, vol. ii.

* A System of Anatomical Plates, accompanied with Descriptions and Physiological and Surgical Observations. Part ix. Organs of Sense. 1826. Page 57. Date of Preface, Dec. 24, 1825.

diseased mass are the pterygoid processes of the sphenoid bone with the pterygoid muscles. These bony processes will readily yield by compressing or shaking the anterior part of the bone, or they may be divided by the forceps, and the muscles cut with the knife. The bone or bones are frequently so soft in this disease as to be easily cut with a knife or scissars. After the bone with the diseased tumor has been removed, the flap is to be carefully replaced, and the wound in the cheek held together by one or two stitches, adhesive plaster, and bandage. In no other way do I see that this formidable disease can ever be eradicated, and those who have had the misery to witness the exposure of the antrum by laying open the cheek, and the alternate cutting and cauterizing, and afterwards the protracted treatment by the cautery, the inflammation, the offensive suppuration, and the hectic fever, which supervene, and ultimately carry off the patient, will listen to any means which hold out a prospect of a happier result."

Gensoul* himself refers to Lizars in the following words, which shew that he was not aware how much credit is due to our Scotch brother. "Mr. Lizars of Edinburgh has, it is said, since 1827, successfully removed different tumors from the maxillary sinus. I could not find out what method he followed, though I have run over all the numbers of the English Lancet from 1827 to 1829. However, I doubt not but that the operation was preceded by tying the external carotid artery, since in the English journal which I have just cited from (the Lancet, 1831), I have found the history of the removal of the superior maxillary, practised the 17th of November, 1830, by Mr. Scott, surgeon to the London Hospital." It appears to me clear from this, that Gensoul really believed that he first originated this operation in its present complete form, and therefore his observations are interesting.

After stating the objectionable mode of proceeding, namely, that of cutting away the disease bit by bit, he goes on to say, that in order to make clear the difference which exists between the operative proceeding that he would advise and that which is generally adopted in the present day, he would compare it with that adopted for the cure of cancer of the breast; which disease every operator endeavours to remove by cutting through the sound parts.

He determined to apply this principle to the treatment of incurable diseases of the superior maxilla. The course of proceeding which he followed was founded on an examination of the anatomical connections of the bone.

He performed his first operation in 1827; and though we are justified in giving to our own countryman the credit of first *suggesting* the performance of the operation in a perfect manner, we must award to Mons. Gensoul the credit of having first performed it, which he did on the 29th of May, 1827. Lizars first attempted it the December following, but without being able to complete the operation, in consequence of the hæmorrhage which ensued, notwithstanding a ligature had been previously placed on the carotid artery.

As you have seen the operation performed I need hardly state that it is a formidable operation, and one which should be carefully pondered over first; but on this point I would rather quote the opinions of others, than lay any stress on my own, and thus magnify the difficulties of an operation which I have just performed.

Dr. O'Shaughnessy, who has written an excellent little pamphlet on this subject, says, "I know of no operation which requires on the part of the surgeon a more perfect knowledge of the region in which the disease is seated, which compels him to fix in his mind every step he is about to take, and to calculate every change of plan which an altered state of the parts, as they are exposed, may require him to make in the progress of the operation, than the excision of the superior maxilla. I would therefore recommend the young surgeon, before proceeding to this operation, to refresh his recollection of the anatomy of the region, *practically if possible*. He should ponder well over the parts he is about to cut through; the thickness of the bones to be divided, and the depth of the incision to be made, and then to lay down a plan for himself according to the nature of the case, with a fixed determination not to deviate from it, as far as circumstances will admit of. I offer this advice from experience, as I know the value of it. Had I not taken all the precautions I here recommend on the first occasion I extirpated the upper jaw, I feel convinced I hardly could have completed it, from the variety of circumstances that occurred during the operation, which the directions and descriptions given in books did not prepare me for, and in fact which cannot be described. No surgeon should attempt this operation unless he had one assistant on whose firmness and judgment he may safely rely."

I think that the profession is much indebted to Mr. Liston for the decisive manner in which he has distinguished those diseases of the superior maxilla which ought to be removed, and those which it is useless to touch.

He points out very forcibly that the want

* Lettre Chirurgicale sur quelques maladies graves du sinus maxillaire et de l'os maxillaire inferieur, par Th. Gensoul, Chirurgien en chef de l'Hôtel Dieu de Lyons. Accompagnée d'un Atlas de huit planches, in folio, à Paris. Chez Baillière, 1833.

of success which has attended the operation for the removal of the superior maxilla has arisen from a want of proper discrimination between those cases in which the operation is justifiable, and those in which it is not.

His description of the kind of tumor which we ought to remove corresponds so closely with the appearances presented in the case just related, that I cannot refrain from quoting it*.

"But the superior maxilla is found now and then to be involved in a tumor of a more simple and manageable nature, commencing in the osseous structure or periosteum. Some rare cases, also, of extensive deposit of very hard osseous matter, ultimately filling up the cavities and fossæ of these bones, are occasionally met with. The fibrous or fibrinous tumors, as they are more properly denominated by that indefatigable pathologist Mr. Kiernan, are very traceable to some external injury, to which, indeed, the majority of enlargements of parts and new growths are to be attributed, and are comparatively of slow growth.

"The simple tumor, whether involving the upper or lower jaw, differs in consistence, and in form also, from those soft lardaceous or pulpy and brain-like masses, whose soft appearance and progress I have shortly alluded to. They attain, though slowly, a great size; they present a *globular* or *botryoidal* form; displace the surrounding hard and soft parts; project from the countenance; and deranging the features, produce great deformity. The skin may be thinned and pervaded by enlarged venous branches; it is discoloured, but not incorporated, even in an advanced stage, with the morbid mass, nor are any of the surrounding tissues contaminated. The projection towards the mouth often large, and passing down by the side of the opposed teeth and jaw, is hard and elastic, and conveys the feeling of brawn interspersed with bony particles; but it is covered by a continuation of the mucous cavity, slightly thickened and altered, furnishing an inconsiderable discharge, and that neither offensive nor of a bad quality. This growth in the mouth presents indentations made by the teeth, with which it comes in contact. The hard palate, when the upper jaw is involved, is generally covered by a thick layer of tumor which lies over, and also in contact with, but is not adherent to it, nor to the gums supporting the teeth of the opposite side. It obscures the view of the velum and fauces, and, by impeding the functions of respiration, makes the patient very uncomfortable, renders his supply of nourishment incomplete, and even puts his life in jeopardy. The tumor of the lower jaw, again, by the displacement of the tongue and interruption of the performance of its functions, is equally inconvenient and dangerous. In the records of surgery I can find very few such tumors described as affecting the superior maxilla, and my inquiries respecting the cases which have been subjected to operation, which are as yet unpublished, lead me to conclude that the diseases interfered with have not been all of this benign and tractable nature. In many of these the morbid actions have not ceased; the growth has been reproduced, and the patients have not been in any way benefited by the operation."

Mr. Liston mentions, in his lectures published in the Lancet, that he "has extirpated the upper jaw to remove fibrous tumors nine or ten times, without the loss of a single patient. It is an operation more successful than the amputation of the leg, or, at all events, of the thigh, and it is attended with as little risk."

But remember, that when this operation was first proposed and performed by the surgical profession, that the operation was a very dangerous one; indeed, judging by the observations that were made at that time, it was generally fatal, and it is only since the principles laid down by Mr. Liston, regarding the diagnosis of these tumors, have been carried out, that the operation has become generally successful. Mr. Syme, in a letter dated June 16th, 1829*, states, "that the attempts made to accomplish this amputation of the superior maxilla have hitherto failed, but chiefly owing to the uncontrolable hæmorrhage, which, I have heard, obliged one operator to desist even after he had tied both carotids."

In regard to a ligature on the carotid artery previous to the removal of these tumors, Mr. Liston (Op. Surg. p. 164) observes, that "The suffering of the patient is thus much prolonged without his safety being at all enhanced, or the dissection of the tumor in any way facilitated. The flow of blood is quite as effectually commanded by pressure with the fingers on the common carotid on the affected side."

In two cases in which Mr. Scott, of the London Hospital, operated, he tied the carotid in the first, and there was very little hæmorrhage, and no ligatures required afterwards; in the second case* pressure was made over the carotid artery at first, but the hæmorrhage was so great that it became necessary to secure the vessel by ligature."

Dec. 3d, 1831.—Mr. Earle removed the superior maxilla.

The patient, Mary Cane, æt. 45, had enjoyed good health; received a blow on the right cheek.

* Loc. cit.

* Published in the 32d volume of the Edinburgh Med. and Surg. Journal.

The diseased mass projects some distance from the mouth, which it nearly fills; that portion which is seen in the left side of the mouth is moveable, having no connexion with the left superior maxillary bone. Offensive smell; difficult deglutition; no enlargement of cervical glands.

Mr. Earle passed a strong flat ligature round the common carotid, and tied it with a slip knot so gently as not to divide the inner coats of the vessel; a small portion of cork being interposed to act as a tourinquet and facilitate the removal of the ligature at the conclusion of the operation, should it be found that any ill consequences to the brain resulted from its application.

The rest of the operation was performed in the usual way, the bone being cut through with Liston's forceps.

No hæmorrhage took place during the operation; the ligature was then loosened, when some slight bleeding was apparent from the internal maxillary artery. As the patient was rather faint, it was apprehended hæmorrhage might increase; and as no bad effects have resulted from the temporary compression, a common silk ligature was connected with the flat one, which was withdrawn, and the artery finally secured in the usual manner.

Dec. 9th.—The patient is going on as well as possible.

The tumor was of a firm sarcomatous structure, with spiculæ of bone intermixed; that which projected into the mouth was of a softer texture, and approached in character to the medullary sarcoma.

From these and other cases which might be adduced, it would appear that a ligature on the carotid artery is of advantage in some cases for the safe performance of the operation. But, then, I believe it is only necessary in those cases where the tumor is of a fungoid character, and has attained a considerable size; in fact, that it is only necessary in those cases in which it is not right to operate at all.

Let me, then, impress upon you the importance of carefully distinguishing the nature of the tumor before you decide upon an operation. It is true that there are cases in which it is not easy to decide this question in the early stages of the disease, but if you do come to the conclusion that the disease is strictly soft cancer, do not be tempted to remove it in the hope of saving your patient, for I know nothing more distressing, both to the poor sufferer himself and the operating surgeon, than the ultimate recurrence of the disease.

One exception may be made to the rule of not removing the superior maxilla when it is the seat of encephaloid disease, and it is, when the tumor is so small that the whole bone may be removed without cutting into the diseased portion.

Mr. Liston says, "I have in my collection a tumor of this descripsion; it was removed very early, and before there was any threatening of fungus, or the wall of the antrum had given way. It was taken from a young lad, who went through the operation very well, and was alive and without any return of the disease five or six years afterwards."

In our diagnosis of these tumors we are partly guided by the rapidity or slowness of their growth: fungoid disease always advancing with rapid strides, and the non-malignant solid tumor progressing slowly.

In Fostike's case the only unfavourable symptom which the tumor presented was the apparent rapidity of its growth. According to our patient's statement it commenced only ten months ago, at which time the first double tooth on the right side began to decay, and shortly after the right side of the face began to swell. But our dissection of the tumor shows that it sprung from the front of the jaw, and from thence passed backwards; so that in all probability it had been growing slowly within the antrum for some months before it reached the fangs of the molar teeth; and this view of it does away with the idea of its rapid growth; for the growth of these tumors is not attended with pain, until they press upon, and interfere with, the more sensitive structures.

The healthy condition of the gums and the integuments of the cheek contrast strongly with their appearance in another case, to which your attention has been lately directed, of disease of the superior maxilla. I refer to the case of necrosis of the bone, and abscess of the antrum, which was in the same ward. There the cheek was swollen and discoloured, and the gums spongy and purple red. It is true that the palatine process projected into the mouth something as in Fostike's case, but it was elastic to the touch, and not firm and unyielding.

From all that has now been said, you will, I trust, understand the distinction between an incurable and uncontrollable disease of bone—one which ultimately destroys the patient by its physical effect upon the organs of digestion and respiration, and a malignant disease, which is so constitutional that if removed in one part it will return again in another, which cannot therefore be extirpated by operation. From the progress of this case since the operation, we have had every proof that our diagnosis of the nature of this disease is the correct one, and I confidently trust that we are right in believing that by operative interference a fellow-mortal

* Med. Gazette, Vol. ix. p. 514.

has been rescued from a painful and lingering death.

*Note:* Jan. 3, 1846.—This patient left the Hospital to-day quite well. There is a very small aperture, about the size of two split peas, in the roof of the mouth, just anterior to the palatine process of the palate bone. This has been covered with a silver plate and sponge, and the lad speaks as well as ever. There is very little deformity of the face.

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A COURSE OF

## LECTURES ON DENTAL PHYSIOLOGY AND SURGERY,

*Delivered at the Middlesex Hospital School,*

By John Tomes, Esq.

Surgeon-Dentist to the Hospital.

### Lecture IV.

*Development of animal tissues from nucleated cells—Development of the teeth from papillæ composed of cells—The papilla derived from mucous membrane—Three stages of dentition; follicular, saccular, and eruptive.*

Gentlemen,—Now that we have become acquainted with the dental tissues in their perfect state, we will proceed to trace them through their various stages of development.

If we take an egg of the common fowl, and carefully in water remove first the shell, and then the albumen or white, a small circular spot of a whitish colour may be seen on the surface of the yolk. This, the germinal spot, is composed of a number of spherical bodies, called cells, each having a proper coat, which incloses numerous lesser spherical bodies, called the nuclei. The nuclei again contain other still smaller bodies, called the nucleoli.

From these so formed tri-celled bodies, (which by some authors are called cytoblasts, by others nucleated cells,) all the tissues of the adult animal are developed. Filling the interspaces left by the spherical cells is a colourless homogeneous fluid, described under the name of plasma. With the commencement of incubation the cytoblasts increase in size by the rapid growth of the inclosed cells, till the coat divides, and the inclosed cells are liberated. These in their turn give birth to others; the process of development being repeated until the germinal spot has greatly increased in size. At a specific time the cells begin to arrange themselves definitely for the formation of the tissues. Each tissue requires a peculiar modification of the cellular development, which, taking place gradually, may be seen at various stages of formation, from the simple nucleated cell to tissues in which the form of the elementary cell is no longer observable. Thus, in fibrous tissue, the formative cells are developed in length, and the original form lost, while in cartilage they preserve their oval figure, are placed side by side, and become separated by an intermediate tissue, which is supposed to be developed by their coats. Thus, we have growth taking place prior to the existence of vessels; not, however, without the presence of an animal fluid. This fluid, the plasma, bathes the surface of the cytoblasts, and is probably furnished by the yolk.

Having given you briefly an outline of the process of development generally, we shall be prepared to examine with advantage the modification which pertains to the formation of the teeth. But our attention will be first directed to what may be termed the development of the physical form of teeth apart from the development of the individual dental tissues.

For our knowledge of this branch of the subject we are principally indebted to Mr. Goodsir; and as the matter of this lecture is in great part borrowed from his memoir, I shall follow the arrangement adopted in his description; beginning with the earliest appearance of the dental organs, and tracing their progressive development through its various stages up to their perfect state. As early as the sixth week of uterine existence, when the human embryo is scarcely an inch in length, preparation for the dental development may be seen. On opening the cavity, which can hardly at this period be called a mouth, so rudimentary is its state, a groove is found bounded anteriorly by the lips, and posteriorly, by a lobe, of semicircular shape (the rudiment of the future palate). This groove is called the primitive dental groove, and in it, the first stage of dental formation takes place. At the seventh week of uterine life a slight projection of the mucous membrane, at the bottom of the groove, on each side of the arch, is observable, and which soon increases in size, and forms a papilla. This papilla is the primary condition of the tooth pulp, and is composed of an aggregation of cytoblastic cells. At this early stage vessels do not go into the papilla, but form loops under it in the mucous membrane. However, as the papilla increases in size by the growth of the cytoblasts, in the manner already described, the vascular loops become elevated into its substance, always, however, lying a certain distance below the surface. This, the first formed is the follicle of the anterior temporary molar; those of the upper appear a short time before those of the lower jaw.

About the eighth week a second follicle is formed, anterior in situation to the one first

spoken of, and is accompanied by a growth in the form of a notched lamina, proceeding from the external wall of the dental groove.

At the ninth week of fœtal life the papilla for the development of the incisive teeth make their appearance, and are bounded anteriorly by the external wall of the dental groove in the form of notched laminæ.

With the tenth week the papilla for the posterior temporary molar is developed in the dental groove posterior to those described.

Thus at the tenth week of fœtal existence we have in the dental grooves twenty papillæ, corresponding to the twenty temporary teeth. As the papillæ grow, the walls of the dental groove increase, and send out laminæ towards each other, which meeting, unite and form septa. By these means the papillæ are enclosed in follicles (cells with open mouths).

The development of septa commences around the first molar about the tenth week, and is principally effected by the development of processes from the external wall of the dental groove. A similar follicular development takes place around the canine papillæ. During the eleventh and twelfth week septa pass from the outer to the inner side of the anterior portion of the dental groove, and in so doing inclose in well developed follicles the incisive papillæ. By a similar process the posterior molar papillæ is follicularised; still, however, leaving behind it an open portion of the dental groove.

Considerable changes ensue during the thirteenth week, especially in the shape of the papillæ, which instead of remaining as hitherto simple rounded blunt masses, each of them take a particular shape. The incisive assume in some degree the shape of the incisor teeth, the canines become simple cones, and the molars resemble cones flattened transversely.

The papillæ, from their more rapid growth, protrude from the mouth of the follicle, while the depth of the latter is relative to the length of the fang of the future tooth; the canine follicle therefore being the deepest.

Simultaneous with the change of shape in the papilla is the development of opercula, or lids to the follicles. The incisive follicles have two operculæ; one larger, anterior, and rather external; the second smaller, posterior and internal. There are three for the canines, one external, and two internal; four or five for the molars, each corresponding with a tubercle, while the edges of the opercula correspond with the fissures on the grinding surface of the tooth.

At the fourteenth week the inner lip of the dental groove has increased in size, and applies itself in a valvular manner to the outer lip.

The relative rapidity of growth between the papillæ and the follicles is now reversed, and the former recede into the latter. The operculæ, from increased size, almost hide the papillæ.

With the termination of the fourteenth week, the primitive dental groove having performed its part in the animal economy, in furnishing the ten milk papillæ, is succeeded by the secondary dental groove, which is situated on a higher level, and is destined to furnish the papillæ of the permanent teeth, excepting, however, the molars. The secondary dental groove gradually appears in the form of a small crescent-shaped depression, immediately behind the inner opercula of each of the milk follicles.

Those of the centre incisors appear first, followed by the laterals, canines, anterior bicuspides, and posterior bicuspides. About this time the opercula close the mouth of the follicles, but without adhering; shortly, however, adhesion takes place, first closing the anterior follicles, then the laterals, the others following in succession. Between the fourteenth and fifteenth week, the opercula and lips of the now extinct adherent groove become flocculent and rough, excepting, however, the depressions for the ten permanent teeth. By the adhesion of the opercula the follicles have become sacs, and the inclosed papillæ are now recognised as the pulps of the milk teeth. The crescent-formed depressions, developed in the posterior wall of the milk follicles, now constitute the secondary dental groove, or cavities of reserve, for furnishing the papillæ of the ten anterior permanent teeth; and by a process similar to that by which the milk papillæ were developed in the primitive dental groove.

It will be recollected that a posterior portion of the primitive dental groove, after the formation of the papilla of the second milk molar, remained open and unoccupied. This portion is subject to no alteration till the expiration of the sixteenth or seventeenth week, when the development of the papillæ and follicles for the anterior molar commences, the site being immediately behind the sac of the posterior milk molar. The cavities of reserve for the ten anterior permanent teeth exist, and as minute compressed sacs lying between the milk sac and the surface of the gums. From the time of the closure of the milk follicles the pulps gradually assume their peculiar shape, and those destined for the function of the molar teeth are divided at the base for the development of their several roots. With these progressive changes, the sac growing faster than the pulp, an intervening space is formed, in which is developed a soft granular substance, which for a time in-

creases in quantity, and is adherent to the inner surface of the sac, but not to the pulp, though closely applied to the surface of the latter.

In describing the course of the vessels of the pulps, I cannot do better than use Mr. Goodsir's own words.

"Each branch of the dental artery, as it arrives at the fundus of its destined sac, sends off a number of radiating twigs, which run in the substance of the cellular submucous tissue (which constitutes the outer membrane of the sac) towards the gum, from which others proceed to inosculate with them. The combined twigs then ramify minutely in the true membrane of the sac, without sending the smallest twig into the granular substance. The dental branch, after giving off these saccular twigs, divides into a number of contorted ramifications between the base of the pulp and the sac, from which smaller *ramusculi* are transmitted into the pulp itself. In the case of the molars, the main branches divide into three secondary branches, one for each of the secondary bases. From these three sets of saccular twigs, three packets of contorted pulp vessels take their origin."

After the conversion of the incisive follicles into sacs, and the change in form of the pulp, the follicle of the first permanent molar is converted into a sac, which then receives granular matter. In the conversion of this follicle into a sac, a portion between the continuous surface of the gum and the sac remains inadherent, thus forming a second sac with collapsed sides. This, lined with mucous membrane, is a cavity of reserve for the formation of the secondary permanent molar and the wisdom tooth. The next step in the process of development is the appearance of caps of tooth-substance upon the tips of the pulps, and is accompanied with a diminution of the granular matter of the sacs. Ultimately the granular matter is reduced to a thin layer, and at last, when the pulp is perfectly capped with tooth-substance, disappears altogether, leaving the interior of the sac with a villous vascular appearance, like mucous membrane.

These changes bring us to the seventh or eighth month.

During the interval of the fourteenth week and eighth month, the cavity of reserve for the ten anterior permanent teeth gradually recede from their position between the milk sacs and the gums, to points posterior to the milk sacs.

About the fifth month, the distal extremities of the four anterior cavities of reserve having dilated, the rudiments of the permanent papillæ are seen in a small fold, lying across the base of the cavity, the direction corresponding with that of the cutting edge of the future tooth. At this time the cavities of reserve resemble in shape a pear, the smaller end being directed towards the surface of the gum. At the small extremity two folds appear, one anterior, the other posterior, and together round off the extremity of the sac. These folds are rudimentary opercula, and are lost with the obliteration of the smaller portion, which they cut off for the larger division of the sac. With the obliteration of the distal extremity the cavities are converted into closed sacs, and continue to recede deeper in the gum behind the temporary sacs, imbedding themselves in the sub-mucous tissue of the milk sac. We have now arrived at a stage of dental development which has often been described, but of which Dr. Blake was the first to give a distinct account. This author, finding the temporary sacs with lesser ones implanted in their posterior walls, was led to conclude that the permanent tooth pulp is formed from the temporary by a gemmiparous process. Subsequent writers, including Mr. Fox and Mr. Bell, but excepting Hunter, have, prior to the publication of Mr. Goodsir's excellent paper, held similar opinions. The more extended and accurate observations of the latter author have, however, led to the explosion of the gemmiparous hypothesis.

About the fifth month the septa are formed between the external and internal wall of the primitive dental groove, and ossification takes place in them, first forming little bridges, which, by the end of the sixth month, form complete partitions. Thus, at the termination of the sixth month of uterine life, the alveoli are formed. As the milk sacs increase in size the alveoli increase also, and little niches are formed in their posterior walls for the reception of the permanent sacs. The permanent sacs, when formed, increase in size more rapidly than the jaw, from which want of accordance the sac of the first permanent molar, at the eighth month, retreats into the maxillary tuberosity, where it is found completely imbedded, and occupying a higher level than the other sacs. In thus moving backward, the cavity of reserve placed between it and the gum is dragged out to an increased length, and with it the surface of the gum is drawn upwards and backwards, thus producing a dimple in its surface. About the time of birth the fangs of the incisors begin to be formed. Three separate actions are concerned in the development, viz., first, elongation of the base of the pulp; second, deposition of dentine upon it; third, adhesion of the contiguous portion of the sac to the surface of the so-formed dentine.

When the development of the roots of the milk teeth is advancing, the permanent sacs increase in size, together with the containing crypts; which, from a growth of their

edges, form an osseous partition between the temporary and permanent sacs. At this period, when the infant is eight or nine months old, the maxillary arch having increased in size, the permanent molar begins to descend from its elevated position in the tuberosity, and the cavity of reserve to resume its original position and size.

Commonly the central incisors pass through the gum (or are cut, as it is more frequently called) about the eighth or ninth month, and in the following manner. The crown of the tooth being perfected, and the formation of the fang advanced by the triplex action already described, an action is set up by which the edge of the tooth passes through the gum. Here, then, terminates the saccular stage of the tooth, the sac having been opened by the passage of the tooth through the gum. It must be borne in mind, that with the development of dentine for the fang the sac becomes adherent to its surface, not, however, to the surface of the enamel, so that a probe might be passed down the surface of the enamel to the neck of the tooth so soon as the sac is opened by the edge of the tooth. When once the tooth is cut, growth progresses rapidly. The tooth, however, appears to grow more rapidly than it really does, and from the following cause. The sac being opened, and its inner surface thereby rendered continuous with that of the gum, a strong disposition to contract seems to come into force in that portion investing the enamel, and as the gum constitutes one fixed point, and the adhesion of the sac to the neck of the other, the tooth is, as it were, lifted out of the gum by the shrinking of the sac. As a consequence of this movement, the distance between the unfinished end of the fang and the fundus of the alveoli is lengthened. The alveolus now rapidly adapts itself to the neck of the tooth, to which it becomes accurately moulded. The pulp elongates itself, and diminishes at its base, till, at the completion of a tooth, it has diminished to the size of a thread, and is occupied principally by the dental vessels and nerves.

As the temporary teeth have advanced towards the surface, the sacs for the permanent teeth have receded behind the former, and have become inclosed in a proper bony crypt, from each of which a foramina proceeds. In the sacs for the front teeth these foramina open immediately posterior to the milk teeth, but those for the bicuspids open into the alveoli of the milk molars. From the apex of each sac a fibrous cord proceeds through the foramina to join the gum near the neck of the milk teeth, excepting in those under the milk molars, in which the fibrous cord unites with the periosteal lining of the temporary alveolus. These cords, or gubernacula as they are sometimes called, are formed of the obliterated portion of the pulp follicle, which, it will be remembered, was rendered external to the sac by the development and subsequent closure of the opercula. It seems the union of the two sides is sometimes incomplete, so that the cord is in fact a tube closed at its two extremities. The gubernaculum lengthens as the sac recedes from the surface, and disappears only after the tooth passes through the gum. From observing the position and disappearance of the gubernaculum, many have supposed that it leads or directs the developing tooth to its proper situation in the alveolar arch. Mr. Goodsir makes the following observation when speaking of the use of the cords and foraminæ :—"The cords of communication which pass through these foramina are not tubular, although in some instances a portion of the unobliterated intra-follicular compartment of the original little cavity of reserve may be detected in them; they are merely those portions of the gum which originally contained the lines of adhesion of the depressions for the permanent teeth in the secondary dental groove, and which have been subsequently lengthened out in consequence of the necessarily retired position in which the permanent teeth have been developed during the active service of the temporary set.

The cords and foramina are obliterated in the child, either because the former are to become useful as "gubernacula," and the latter as "itinera dentium;" or much more probably in virtue of a law which appears to be a general one in the development of animal bodies; viz. *that parts or organs which have once acted an important part, however atrophied they may afterwards become, yet never altogether disappear so long as they do not interfere with other parts or functions.*"

The sacs of the permanent teeth derive their vessels first from the gums, but afterwards from the milk sac; and as the sac sinks deep into the alveolus they receive their vessels from the proper dental canals. When speaking of the development of the first permanent molar, it was stated that after the closure of the sac, a space or cavity lined with mucous membrane was left between the sac and the surface of the gum; also that the cavity was stretched backwards as the sac receded into the tuberosity of the jaw, and that as the sac from increase of space is placed in the line of the alveolus, the cavity again contracted and occupied its former position. This position, however, is soon changed, for at the seventh or eighth month the cavity enlarges and elongates posteriorly, dips back behind the sac for the first permanent molar, and then gives birth to another papilla; the papilla of the second permanent molar.

In the formation of this sac a cavity of reserve is, however, left, just as in the formation of the sac of the first permanent molars. This cavity is elongated, and again contracts as it is dragged by the new sac backwards towards the tuberosity; and again, as in the former case, comes forward as the sac descends into the line of the alveolus, when by the growth of the jaw sufficient alvolar room is afforded. About this period the cavity of reserve for the third time enlarges posteriorly, dips backward behind the sac of the second molar, and forms a papilla and sac for the development of the wisdom tooth. The so formed sac for the wisdom tooth recedes, as did the anterior molar, into the tuberosity of the maxilla. The cavity of reserve now exists but as a line, which extends through the gum over the permanent molars, marking the points where it formerly existed as an important organ of development.

At present we have been describing the dental development as it occurs in the upper jaw. In the lower maxilla the process is similar, the primitive dental groove appearing first at the side of the jaw, and afterwards advancing towards the centre. The papilla of the first milk molar is the first to appear, then that of the canine, followed by those for the incisors. In the development of the permanent molar the coronoid process there receives the sacs, as the tuberosity did those in the upper jaw. The cavities of reserve for the permanent molars are, however, formed from an unclosed posterior portion of the secondary dental groove, and not from the primitive dental groove, as in the upper jaw. In point of time the appearance of the papillæ is a few days later in the under than in the upper jaw. Mr. Goodsir divides dentition into three stages. First, the follicular, in which stage is included the papilla, when it existed as a simple prominence from the mucous membrane, and extends to the closure of the opercula. Second, the saccular, which commences with the closure of the opercula, and ends with the passage of the tooth through the gum. Third, the eruptive, which commences when the tooth appears through the gum, and extends to the period when the permanent teeth are fully developed.

These three stages, when considered in reference to any particular tooth, are well defined, but when viewed in reference to the whole set or the two sets, they are intermingled; thus, when one tooth germ is in the saccular, another is in the follicular stage; again, when the temporary teeth are in the eruptive, the permanent teeth are in the saccular stage.

It will have been observed in the foregoing statement, that though the papillæ of the upper incisors are the first to appear, yet that the lower incisors are the first to be completed. This arises from an arrest in the development in the superior incisors, consequent upon the slow development of the anterior part of the superior maxilla. In the fœtus three lobules are found forming the central part of the upper jaw; these lobules are the rudiments of the intermaxillary bones. In the formed mouth of the human subject, the intermaxillary are merged into the maxillary bones; but in the lower animals they exist in distinct parts. These central lobules, according to Mr. Goodsir, are slow in their development, and with them the contained papilla, while the papilla of the lower incisors grow steadily from the time of their first appearance in the primitive dental groove. For a further account of this part of the subject, I must refer you to Mr. Goodsir's paper.

From the foregoing statement (the matter of which has been taken from Mr. Goodsir's memoir) we learn that early in fœtal life a groove appears in the mouth, between the jaw and the lips, first in the side, afterwards in the anterior part of the mouth; that in this groove small papillæ start up, first at the side of the mouth, then in the anterior part; that walls are developed from the external boundary of the groove, inclosing the papillæ in cells, and that afterwards coverings, or lids, are developed. We also learn, that from the posterior surface of the milk cells secondary cells are formed, which go through stages like those by which they have been preceded, and give birth to the permanent teeth. We further learn that the milk teeth are formed in three distinct divisions—a molar, a canine, and an incisor; that the molar is the first, the canine the second, and the incisor the third to appear; but that the first molar is developed before the second, and the first incisor before the second; also, that the rudiments of the teeth appear in the upper jaw before the lower. In the closing of the follicles the process commences at the anterior part of the dental groove, and proceeds backwards. In the permanent teeth, the papillæ, excepting the anterior molar, appear first at the mesial line, and in succession backwards.

It is thus apparent that the organs for the development both of the temporary and permanent teeth are derived from the mucous membrane of the mouth, and that the papillæ of the temporary and permanent teeth have each a perfectly independent origin.

*Diagrams illustrative of the formation of a temporary and its corresponding permanent tooth from a mucous membrane.*

FIG. 1.—Mucous membrane.

FIG. 2.—Mucous membrane with a granular mass deposited in it.

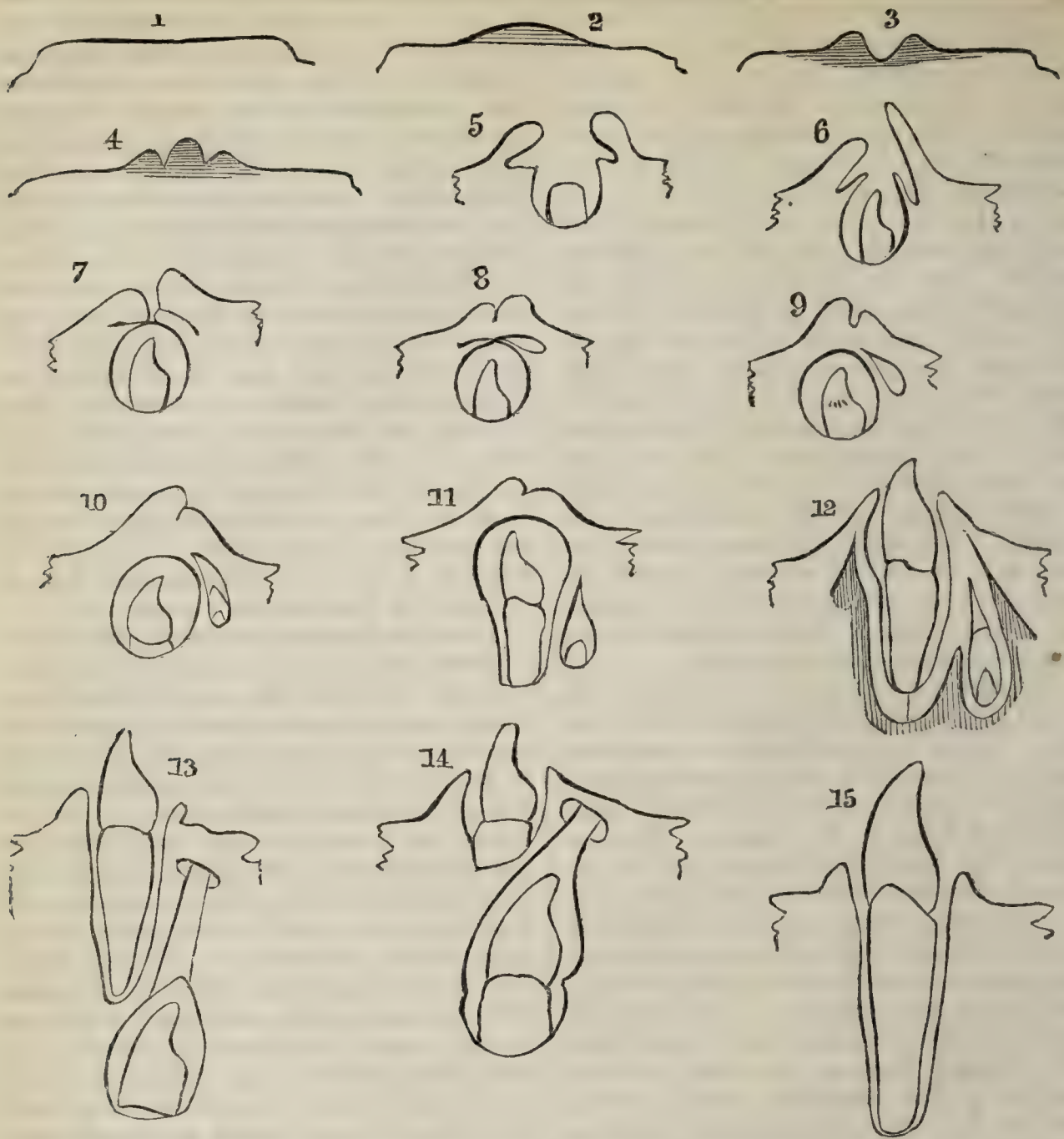



Fig. 3.—A furrow or groove on the granular mass, (primitive dental groove.)

Fig. 4.—A papilla on the floor of the groove, (a tooth germ.)

Fig. 5.—The papilla inclosed in a follicle in the bottom of the groove, (the latter in the condition of a secondary dental groove.)

Fig. 6.—The papilla acquiring the configuration of a pulp, and the sac acquiring opercula. The depression for the cavity of reserve behind the inner operculum.

Fig. 7.—The papilla become a pulp, and the follicle a sac, in consequence of the adhesion of the opercular lids. The secondary dental groove in the act of closing.

Fig. 8.—The secondary groove adherent, except behind the inner operculum, where it has left a shut cavity of reserve for the formation of the pulp and sac of the permanent tooth.

Fig. 9.—The last change rendered more complete by the deposition of the granular body (the enamel tooth), deposition of tooth-substance commencing.

Fig. 10.—The cavity of reserve receding from the surface of the gum, and dilating at its distal extremity, in which a pulp is forming. Rudimentary opercula developing near its proximal extremity, and dividing it into a follicular and extra-follicular compartment.

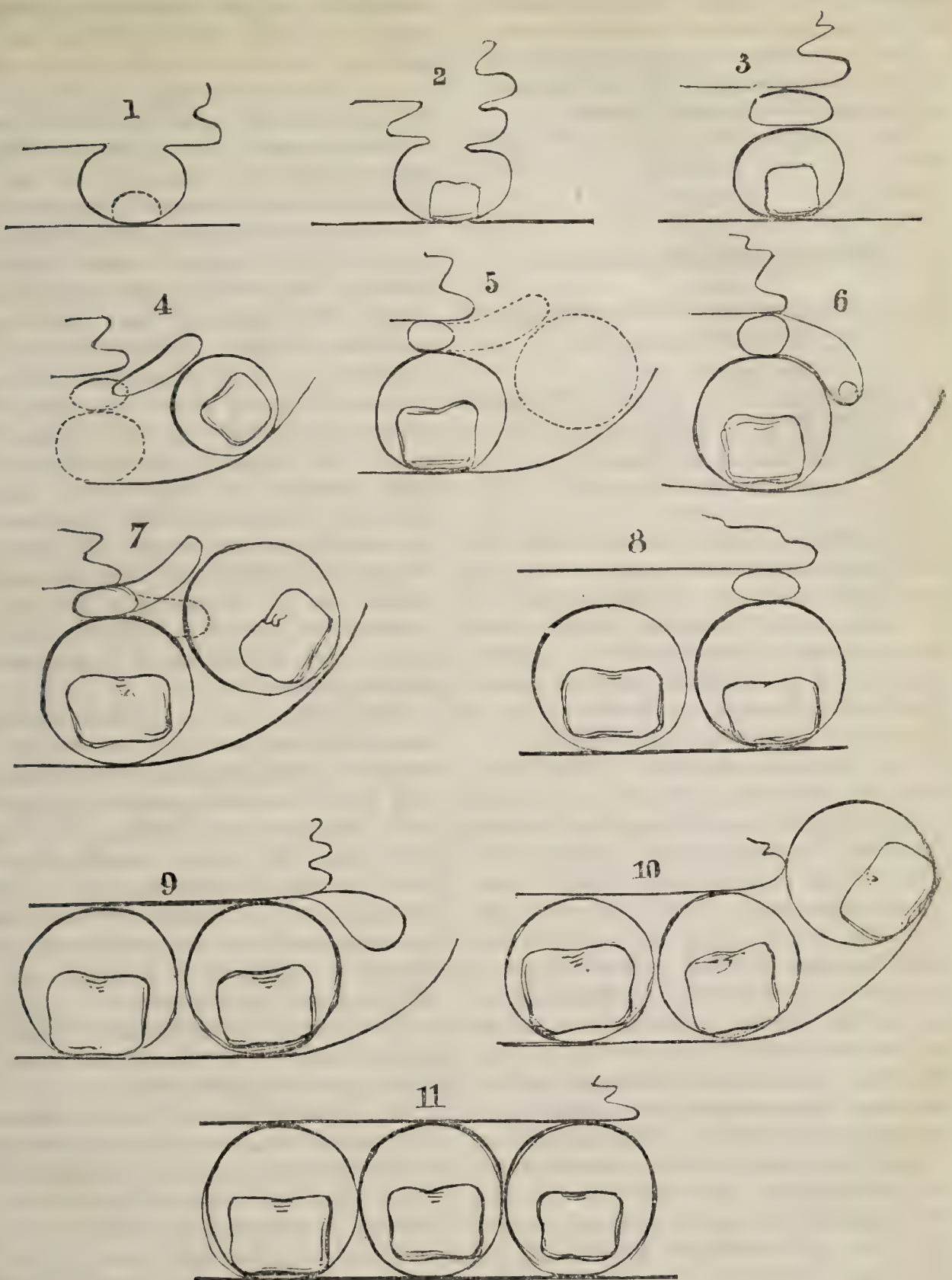
Fig. 11.—The temporary tooth acquiring its fang by the triplex action described in the lecture, and its sac approaching the surface of the gum.

Fig. 12.—The temporary tooth sac again a follicle; free portion of the sac becoming shorter, and the fang of the tooth passing from the bottom of the socket.

Fig. 13.—The temporary tooth completed; the free portion of the sac become the vascular border of the gum; the adherent portion become the periosteum of the fang. The permanent tooth sac removed from the gum, but connected with it by the gubernaculum passing through the foramen behind the temporary alveolus.

Fig. 14.—The fang of the permanent tooth lengthening, and the crown approaching the gum. The fang of the temporary tooth undergoing absorption.

Fig. 15.—The perfect permanent tooth.




*Diagrams illustrative of the formation of the three molar teeth from the non-adherent portion of the primitive dental groove.*

Fig. 1.—The non-adherent portion of the primitive dental groove.

Fig. 2.—Papilla and follicle of the first permenent molar on the floor of the non-adherent portion, which is now a portion of the secondary dental groove.

Fig. 3.—The papilla and follicle of the first molar become a pulp and sac. The lips of the secondary groove adhering, so that the latter has become the posterior or great cavity of reserve.

Fig. 4.—The sac of the first molar advanced along a curved path into the substance of the coronoid process or maxillary tuberosity. The cavity of reserve lengthened out or advanced along with it.

Fig. 5.—The sac of the first molar returned by the same path to its former position. The cavity of reserve again shortened.

Fig. 6.—The cavity of reserve sending backwards the sac of the second molar.

Fig. 7.—The sac of the second molar advanced along a curved path into the coronoid process or maxillary tuberosity. The cavity of reserve lengthened for the second tissue.

Fig. 8.—The sac of the second molar returned to the level of the dental range. The cavity of reserve shortened for the second time.

Fig. 9.—The cavity of reserve sending off the pulp and sac of the wisdom tooth.

Fig. 10.—The sac of the wisdom tooth advanced along a curved line into the maxillary tuberosity or coronoid process.

Fig. 11.—The sac of the wisdom tooth returned to the extremity of the dental range.

## Original Communications.

### CASES OF PELVIC INFLAMMATION ENDING IN ABSCESS.

By Joseph Bell,
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[Concluded from page 64.]

*Symptoms.*—It is obvious that the symptoms must vary considerably in each individual case, in consequence of the difference of position, extent of the disease, and its complications. There are several symptoms, however, peculiar to the disease; a brief recital of these may not prove unprofitable.

1st. *The Constitutional.*—The disease commences with a rigor, or rather a series of shiverings; the pulse becomes frequent, seldom falls below 100, though the patient feels much better in the mornings, yet in the evenings becomes worse, and the pulse rises, face becomes flushed. The tongue is generally furred, but is often clean and moist; the febrile excitement occasionally subsides for a day or two, and then returns. These exacerbations and remissions may occur several times in the course of the disease. The patient becomes emaciated, is subject to hysterical paroxysms, and is distressed with frequent vomitings and sickness, especially at an advanced period of the disease. Perspiration is most profuse; it cannot be called nocturnal, as it occurs whenever the patient falls asleep; I have seen the patient completely drenched with it, requiring the clothes to be changed four or five times daily.

*Local.*—1st: Pain—which is complained of at a very early period of the attack, sometimes preceding the rigors. It may be said to be of a two-fold character: 1st, general or neuralgic; 2nd, local or inflammatory.

1st. General pain: this extends over the whole or greater part of the abdominal parietes; the slightest touch causes the patient to scream; pressure made gradually affords relief, but the sudden withdrawal of the hand aggravates the suffering; pinching the integuments is also attended with intense agony: this pain is evidently sympathetic or neuralgic, and is very different in its relations to pressure from the *local* pain which exists in the lower part of the abdomen, generally one or other of the illiac fossæ or hypogastram. Firm pressure over these parts increases the pain. Though oftentimes you have neuralgic pain here also, yet deep-seated pain is always much complained of when you make firm pressure. We require to examine these facts carefully, in order to avoid falling into error, as upon a slight examination we might fail to detect the local or deep-seated pain, and view the case as one of simple neuralgia; or, on the other hand, consider the pain of abdomen to be indicative of inflammation of the peritoneum.

The general pain, therefore, is simply neuralgic, similar to that which we frequently meet with in nervous females, and those labouring under congestion and irritation of uterus. The local pain, on the other hand, depends directly on the inflammatory action existing in the pelvis. I have dwelt at some length on this symptom, as it forms an important element in the diagnosis of the disease.

2. A circumscribed tumor or brawny hardness, in either one or other of the illiac fossæ or hypogastrium.

Dr. Churchill states that the presence of tumefaction, or of a distinct tumor, is invariable; it occurs, he affirms, in all cases, and characterises the disease. A tumor is certainly a circumstance of frequent occurrence, but it is not always present. In Case II. neither tumor nor tumefaction existed, though most careful examinations of the parts were daily instituted. In Case III. we had no tumor, and only a degree of swelling, with some dulness on percussion, over hypogastrium. When the disease is situated posteriorly, and does not extend much in an upright direction, we can easily account for the absence of the tumor. Again, even when a tumor is felt in the lower part of the abdomen, we are not hastily to conclude that it is an abscess. In Case I. the uterus constituted the hypogastric tumor; and Professor

Simpson, of Edinburgh, relates a similar instance.

A vaginal examination always detects an enlargement or swelling. In my cases the information obtained in this way was of the most conclusive character. Of course every case will present peculiarities with respect to extent, position, connexions and complications. Dr. Dogherty observes that on introducing the finger into the vagina, the roof is tender to the touch, and is as firm and inelastic as a deal board. I have only felt this hardness in one or two cases.

3rd. Micturition.—The patient often complains of pain and inability to pass urine. Sometimes the catheter finds none in the bladder, as in Case VII.; in these instances the tumor seems to press on the ureters, preventing the passage of the urine from the kidneys to the bladder. In such cases we have great prostration and comatose symptoms presented, similar to those I observed in suspension of the urinary secretion or paruriamops of Dr. Mason Good, or the ischuria renalis of others.

4th.—Tenesmus or pain after voiding the contents of the bowels. This is a prominent character in the great majority of cases, and tends greatly to increase the sufferings of the patient, who is often in comparative ease previous to having a dejection, but upon which all her sufferings return with increased intensity. I have witnessed the greatest agony on these occasions; the patient screaming from pain: she describes the rectum as if it were burning with hot irons, and severe pains shoot through the pelvis in every direction.

5th.—Discharge of blood from the vagina. This occurred in Cases II. and VIII.: its appearance was preceded by an aggravation of pain, but succeeded by temporary relief.

6th.—Constipation sometimes takes place to an alarming extent; in one case, in which the abscess burst into the bowel, this was a prominent symptom, and could not be overcome; the patient had no dejection for six days previous to the rupture of the abscess.

7th.—Diarrhœa occurs in many instances.

8th.—Neuralgic pains of joints, particularly the knee and hip-joints, extending down the thighs, resembling sciatica.

9th.—Stiffness of the limb of the affected side is also frequently experienced, and in cases where the abscess is formed beneath the deep pelvic fascia among the muscles: the limb remains flexed, extension being attended with severe pain.

10th.—The lochial discharge is sometimes not suspended, but it has been observed to become arrested at an early period.

With regard to the remission of the symptoms, which almost invariably occur in every case, I have wondered if it did not take place simultaneously with the formation of pus, and if the subsequent aggravation of the patient's sufferings might not be caused by the inflammation and destruction produced among the surrounding parts as the matter attempted to evacuate itself.

*Causes.*—If we take into consideration the violence which accompanies parturition, the separation and contusion to which the various parts immediately connected with the process are exposed, we can have little difficulty in accounting for the occurrence of phlegmonous inflammation, even when there does not exist any obvious accidental cause; particularly when we consider the great predisposition which exists in parturient females to take on inflammatory action.

Besides this we have several other accidental circumstances occasionally connected with delivery; such as the introduction of the hand to remove the placenta, the application of the forceps, and the other obstetrical operations which we often require to perform.

Exposure to cold after delivery is considered another cause. Marchall observes, that a great number of the patients had left the Maternité a few days after their confinement, and thus were exposed to cold. Others have made a similar remark. In my own observations, exposure to cold had been undergone in the greater portion of the cases.

Peritonitis and puerperal fever, frights and injuries, have been considered as occasional causes.

The number of the pregnancy seems to influence the predisposition to the disease in 45 cases, in which the number of pregnancies is noted: I find 25 occurred after the first pregnancy, 5 after the second, 3 after the third, and the same number after the fourth and

fifth. 4 took place after the sixth, and 2 after the seventh.

Age is considered as a relative predisposing cause. With regard to this subject, Marchal remarks—

"1. La jeunesse est une cause prédisposante, par rapport à la primiparite.

"2. L'age avance est une cause prédisposante par rapport au resserrement des articulations et à l'embonpoint."—*Loc. cit.* p. 121.

*Diagnosis.*—This in the early stage is attended with difficulty: the pain, of the peculiar character described, along with the constitutional symptoms, are sufficient to arouse suspicion that inflammation has commenced, and to authorise a vaginal examination, which is of the utmost importance in a diagnostical point of view. It not only enables us to distinguish the affection with certainty, but is also the only mode by which we can either establish a differential diagnosis, or arrive at a satisfactory conclusion respecting its seat, position, extent, and connexions. But as a vaginal examination cannot be always obtained, it may not be improper to allude to the principal diseases under which the one under consideration is likely to be confounded, and to point out their differential marks.

1st.—Peritonitis. From the inflammation of the abdominal peritoneum, the neuralgic pain and the absence of the several symptoms of peritonitis will enable us to make the distinction. Indeed, to confound the two diseases would be to argue great carelessness, and the want of the most ordinary information. In protracted cases, peritonitis may exist as a complication either from the bursting of the abscess into the abdominal cavity, or in consequence of the extension of the inflammation from the uterine peritoneum; between which and phlegmonous inflammation it is exceedingly difficult to establish a diagnosis, as all the tissues of the parts involved, more especially the peritoneum, become affected to a greater or less extent, as has been already observed. Dr. Lee remarks, inflammation of the uterine appendages being generally combined with peritonitis to a greater or less extent.* But this does not take place until the disease has existed for some time, and is easily recognised by an increased severity of pain, and aggravation of the febrile symptoms.

2d.—Neuralgic affections of the Abdomen, and Hysteria. The persistence of the pain in the lower abdominal regions, and the effect which pressure has of increasing it, and the presence of the tumor, will be sufficient to distinguish the disease from these affections.

Indeed the tumor when it exists enables us to distinguish the abscess from almost every other malady, except the ovarian disease, and hypertrophy of the uterus.

*a.*—Ovarian disease. The acuteness of the symptoms, and the high constitutional disturbance, will guide us here, as in ovarian disease these symptoms are seldom so acute. Of course, when the ovaries become implicated by the extension of the inflammation, the iliac tumor may principally consist of the enlarged and diseased ovary.

*b.*—Hypertrophy of the Uterus. Sometimes the uterus remains morbidly enlarged after parturition. The organ may also become hypertrophied from other causes. The diagnosis may be easily established by the uterine sound recommended by Professor Simpson of Edinburgh. Case I. in which I committed a mistake myself, the introduction of the bougie at once pointed out the error.

3d.—Sciatica; lumbar abscess; disease of the hip-joint; pregnancy. A careful examination both externally and internally, together with the history and progress of the case, ought to be sufficient in all these instances to enable us to form a correct diagnosis.

*Prognosis.*—We should be very guarded in forming a prognosis. Though comparatively few deaths occur, yet as the abscess occasionally makes its way into the abdominal cavity, and as severe peritonitis also sometimes takes place from the extension of the pelvic inflammation, we cannot overlook the highly dangerous character of the disease. In 93 cases I find there were 22 deaths; being nearly 1 to 5.

Even when the abscess bursts under the most favourable circumstances, we must not be sanguine as to the result. Melier relates a case in which the matter was evacuated spontaneously through the vagina, yet the patient sunk*. Bourdoun mentions another

* London Medical Gazette, August 1843.

* Journal General de Med. 1827.

fatal instance, in which an artificial opening was made in the hypogastrium. We must not forget that sometimes several abscesses exist, and though one be opened, yet the others may induce death.

*Terminations.* — The disease may either terminate in resolution or suppuration.

1. *Resolution.* — Though I cannot positively affirm that I have seen any case in which this happy result took place, yet I have little doubt but that I have frequently met with instances, and allowed them to pass without recognition. Those diseases called neuralgic pains of the abdomen, peculiar to hysterical females, and those denominated irritable uterus, I am inclined to think may often be in reality phlegmonous inflammation seated within the pelvis, but which, ending in resolution, leaves no trace behind. I think we err in ascribing too much to hysteria; and though every pain may not be owing to inflammation at the spot where it is experienced, yet it may be an indication of that action going on in some distant tissue or organ: we have many familiar examples of this pathological fact in various diseases peculiar to both sexes. I would simply suggest a more careful examination of those cases upon which we bestow, with so much complacence and apparent knowledge, the above very indefinite terms. I need scarcely remind you, that many respectable pathologists ascribe diseases of this character, to which females are liable, almost exclusively to congestion or inflammation of the uterus. Though this be an exaggerated notion, yet it contains a large amount of truth. I am convinced that a vaginal examination would tend very much to place the pathology of these anomalous cases on better and more philosophic grounds. But to resume: Puzos narrates several cases in which resolution took place; Husson and Dance record one instance; Marchall mentions two cases in which the same happy event occurred. Dr. Churchill, in his Essay, has recorded two additional instances. On this important point M. Grissolle remarks: "La resolution est la termination la plus heureuse mais aussi la plus rare du phlegmon iliaque. Je ne l'ai vue s'operer que deux fois dans les douze observations que j'ai recuillies, et sur les soixante-treize maladies que forment le total des faits que j'analyse, cette termination n'a été vue complete que neuf fois seulement*."

2. *Suppuration.*—When the disease either has not been detected at its commencement, or, in consequence of the inefficiency of the treatment, resolution does not occur, suppuration takes place, and an abscess is formed, the contents of which, in some few cases, has been absorbed, but in general, bursts either externally or internally.

In 45 cases in which the abscess burst spontaneously, I find 13 opened through the abdominal walls, 12 per vaginam, 7 into the rectum, 4 into abdominal cavity, 1 both into vagina and bladder, 2 both into vagina and rectum, 1 into bladder, 1 into both bladder and uterus, 2 into uterus, 1 behind hip-joint, and 1 at the femoral opening.

From this (which is merely approximative) it would appear that the abscesses burst with nearly equal frequency through abdominal parietes, vagina, and rectum; more rarely into the peritoneum, and still more so into the uterus—indeed, I have only read of three cases in which the matter found its way into this organ, and all these instances proved fatal. One is recorded by Husson and Dance, another by Bourdon, and the third by Wainwright.

*Treatment.*—I need scarcely remark, that our first indication is to obtain resolution by every means in our power. This will require antiphlogistic remedies. When the patient is robust, and the disease of recent duration, general bleeding may be practised. But we will derive most advantage from local depletion. Leeches should be frequently applied either to the lower part of abdomen or vulva, followed by fomentations. Injections of tepid water into vagina will be useful. I have found much benefit from Dover's powder; it allays pain and irritation, and also promotes diaphoresis. I have generally combined a slight mercurial with it, so as to affect the gums gently. I deem this step advisable in consequence of the almost invariable presence of some amount of peritoneal inflammation.

When suppuration has taken place, we may either endeavour to promote

* Arch. General, tom. iii. p. 137, series 3d.

its absorption, allow it to evacuate itself spontaneously, or procure its discharge by artificial means. Each of these three modes of procedure has had its advocates.

1st, *Absorption.*—This I conceive to be very difficult to produce, and must be a process of long duration. Instances, however, may occur in which this plan may be the most judicious. The means recommended by Monteggier and Rayer to promote absorption are a succession of blisters and derivatives to the skin and intestinal canal.

2dly. *The Expectant Mode.*—This I have little hesitation in condemning. We cannot tell how soon the pus may find its way into the abdomen; or, by exciting serious inflammation in its neighbourhood, prove equally fatal: and besides these risks, the patient would be subjected to the general injury which the constitutional powers must receive by a quantity of purulent matter being allowed to remain in the body during the space of many weeks or months; and along with this we would have the mischief done to the important organs through the tissues of which the matter would have to make its way. As having particular reference to this topic, I may mention a very instructive case which occurred to Velpeau. He found a large abscess, in which he detected evident fluctuation per vaginam. He wished to open it artificially, but the patient would not consent. She died shortly afterwards from effusion into the abdominal cavity. From the above, and other considerations too obvious to be mentioned, I am of opinion that the abscess should be opened as soon as possible. This may be done by three different modes: 1st, through the abdominal walls; 2dly, through the rectum; and 3dly, per vaginam.

1st, *Abdominal parietes.* — In instances where adhesions have taken place between the tumor and the walls of abdomen, this is a very safe practice. Adhesion, however, does not always exist, and seldom occurs until a late period of the disease; consequently the practice under consideration is not always advisable. Dr. Martin recommends this external opening, but he uses caustic potash for this purpose. He applies it over the part at which the tumor is most prominent, and thus adhesion between the abdominal walls and those of the abscess is secured. This plan has been exceedingly successful in his hands. Marchall quotes five cases treated in this manner, and all recovered. One objection to the practice in question is the great probability of committing serious blunders. The tumor felt in the lower part of the abdomen may not be the purulent collection, but the uterus itself. Dr. Simpson mentions a case of this kind; and in my first case the same state of matters existed. No doubt but that by the use of the uterine sound a correct diagnosis might be formed: still, the treatment by caustic potash would not be applicable to such abscesses as occurred in these instances. Again, we may have no tumor externally, as we found to be the case in two of the instances which I have read to-night, the abscess being situated between the uterus and rectum. Still further, the disease may be situated beneath the pelvic fascia. And besides these several circumstances, there is another objection to the abdominal opening, namely, the non-depending position which the aperture must have, and this will interfere with the speedy evacuation of the purulent matter. In Case VI., owing to this very obstacle, a counter-opening had to be made into the vagina. From these considerations, I think we may view the plan proposed and practised by M. Martin as not generally applicable.

Dr. Churchill affirms that the best situation for the opening is through the abdominal parietes. In the absence of adhesions, he recommends the following practice: "If," says he, "from the high situation and mobility of the tumor, we fear that when opened the matter may escape into the peritoneal cavity, we might adopt the plan so successfully practised in abscess of the liver by Dr. Graves, and cut down to, but not through, the parietal peritoneum, and then to apply poultices, and with little doubt but that the matter will ultimately make its appearanc through the wound." I am afraid that few could command the steadiness of hand, and practical tact, to cut down with the precision necessary to avoid serious consequences. Besides this, the practice is liable to the same objections as those urged against that of M. Martin.

2dly, *The Rectum.*—Professor Simpson* punctured the abscess in one case through the rectum with Pontean's trocar: the patient recovered. From the frequency with which the abscess opens spontaneously into the rectum without much serious consequences, an opening made artificially will be found, I think, a very proper procedure. It may be occasionally attended with considerable inconvenience from fistulous communications. I know one instance of this nature in which the patient has suffered very great annoyance.

It will be easily perceived that all cases will not be suitable for this operation. It is chiefly applicable to those instances in which the tumor impinges closely or adheres to the walls of the rectum.

3d.—Vagina. Artificially puncturing the tumor through the vagina, though considered by many to be a recent practice, yet was recommended by Guillemeau in 1609. In modern times it has been advocated and practised by Bourdon and Recamier. The vaginal opening I conceive to be the most generally applicable mode of treatment, and the one which is attended with the least risk. It should be done by a guarded lancet or bistoury, with the aid of the speculum. Cases may possibly occur in which this plan would be improper. I am, indeed inclined to conclude that each case may require one or other of the plans mentioned, according to its own individual characters; such as position, extent and complications; consequently I would not recommend any one mode of treatment to the exclusion of all others, but would advise the selection of that which may be deemed most suitable from a careful and judicious consideration of all the circumstances connected with the case.

In conclusion, I have merely to remark, that during the progress of the case, we should endeavour to mitigate the sufferings of the patient as much as possible. The abdominal pains will be much relieved by Dover's powder, other anodynes and fomentations. The distressing tenesmus is rendered much less severe by enemata of starch and laudanum. The sickness and vomiting will be found to yield considerably to sinapisms to epigaster, and the infusion of columbæ.

* Dr. Cormack's Edinburgh Journal.

After suppuration has occurred, and also after the evacuation of the matter, a generous and nutritious diet will be required.

If any hardness remain, we should attempt its removal by the remedies usually employed to promote absorption.

I have nothing to say respecting the sequelæ, which have been said to be immobility of the uterus, impervious condition of the fallopian tubes, and ovarian disease.

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## PRACTICAL OBSERVATIONS ON SOME OF THE MORE IMPORTANT SPECIAL DISEASES OF THE SKIN.

By John Erichsen, F.R.C.S.
Lecturer on Physiology and Surgery at the Westminster Hospital.

[Concluded from p. 69.]

From what has been stated in reference to the etiology of eczema of the scalp, it is evident that the general treatment required must differ very considerably, according to the immediate exciting cause of the disease, the age and constitution of the individual; and it becomes somewhat difficult to lay down any very definite rules of treatment in this respect. In the local treatment the same difficulties do not present themselves, as that is regulated rather by the duration and actual condition of the disease itself than by any reference to the causes that occasioned it.

First of all, with regard to young children. It has already been stated, that in early life this disease occurs in two very opposite conditions of the system: in one, the child is otherwise in the enjoyment of good health, is strong and vigorous, the exudation from the scalp appearing rather to be a determination set up by nature as a safety-valve to prevent the occurrence of other mischief, especially during teething, than an actual disease in itself. In the other set of cases the patient is of a weakly, perhaps a scrofulous habit of body, the disease supervening without any evident cause, or, as a consequence of the depressing effects of the contagious exanthemata, and giving rise to extreme irritation and general disturbance of the system,

so much so as occasionally to threaten the existence of the sufferer. As the disease, then, occurs in one or other of these conditions of the system, it necessarily requires a considerable variation in the treatment.

In the first case, where the disease appears in an otherwise healthy child, about the period of dentition, not only giving rise to no constitutional disturbance, but, on the contrary, having a tendency to prevent the occurrence of mischief that is so apt to happen at that time, we must be especially careful not to do any thing that can suddenly check the eruption; and we must resist all solicitations, dictated by the vanity of parents, to effect a rapid cure. In these cases we should content ourselves with cutting the hair short, applying bread and water poultices, so as to remove incrustations, and allaying undue irritation by means of the application of rags dipped in olive oil, or smeared with zinc ointment; or, as Cazenave and Schedel recommend, direct the nurse to sprinkle some of her own milk upon the affected part. The bowels should at the same time be kept open by means of small doses of hydrarg. c. cretâ and castor oil, and the gums be well lanced if there be any irritation in that quarter. Antacids, of which the fluid magnesia is one of the best, will likewise be found very serviceable. These cases need give the practitioner no uneasiness; the disease, as soon as its purpose has been served in the economy, gradually subsides, and usually disappears without much trouble. Should it lapse into a very chronic condition, assuming the furfuraceous character, it may most generally be readily cured by means of those applications that I shall immediately mention.

It is in those cases in which eczema of the scalp is dependent upon a weakly, depressed, or scrofulous habit of body, or in which it is a sequela of one or other of the eruptive fevers, that it is so obstinate and troublesome, and so frequently occasions very considerable disturbance of the general health. In these cases, if the child be still suckling, it should be weaned as soon as possible on beef-tea, broth, or other similarly nutritious food. This is of much importance, and I believe that a good deal of the difficulty that frequently attends eczema of the scalp in delicate children, will be got rid of by weaning them as soon as possible. The child may then—more particularly if its hands and feet are cold and clammy, the circulation deficient in power, and the features pinched—be put upon a mild tonic plan, a powder, composed of bicarbonate of soda and bark, or a few grains of the carbonate of iron and rhubarb, or the citrate of iron, or a few drops of the tincture of the ammonio-chloride of iron, or the iodide of iron, being administered twice or thrice a day. The last of these preparations is particularly serviceable in doses of from half a grain to two grains twice a day, when there is any scrofulous tendency in the system. As there is frequently in these cases, more particularly when the disease involves the greater part of the surface, much irritation and restlessness, the child being kept awake by the incessant irritation, and the general health consequently suffering very considerably, it may be found necessary to administer some sedative, such as small doses of Dover's powder, or a few drops of the compound tincture of camphor, or of tincture of hop, which will also serve to arrest the diarrhœa and irritation of the intestinal mucous membrane, which is very common in young children labouring under extensive eczema of the scalp, and of other regions of the body, and which may, unless checked, bring them to the brink of the grave. I have never, as yet, seen eczema impetiginodes of children prove fatal, though I have seen several instances in which the little patient has been with much difficulty saved, the debility produced by the excessive irritation and itching of the disease, and the concomitant diarrhœa, being extreme. That it may, however, after existing for several months, prove fatal, we have the authority of Dr. Dewees and Mr. Plumbe, both of whom notice the fact, that eczema impetiginodes may terminate by inducing such diarrhœa and hectic, as will carry off the patient. That this irritation of the intestinal mucous membrane, producing frequent watery and slimy evacuations, frequently alternates with the eczematous eruption, there can be no doubt, when one condition is remedied the other being called into activity; and when this is the case, it will be well not to check it. But, on the other

hand, I have seen cases in which the irritation in both surfaces was invariably most active at the same time, the diarrhœa coming on when the eczematous eruption on the integuments assumed an increase of activity. These cases would lead me to the belief, that the disease that affected the integuments had extended to the gastro-intestinal mucous membrane, as it is not unfrequently seen to do to that of the conjunctiva and lips.

When the disease occurs after the age of puberty, it almost invariably, as has already been stated, affects females; and in them it is in the great majority of instances dependent on irregularity and deficiency of the menstrual function. In these cases this must first of all be restored to its normal standard, by means of the Pil. Aloes cum Myrrhâ, the warm hip-bath, leeches to the groins, cupping over the sacrum, &c. If there be any other circumstance connected with the general health that requires correction, it must of course be attended to; such as obstruction, or derangement, about the stomach, intestines, or liver, which is more particularly apt to be at the bottom of those cases that occur about the middle period of life. For this purpose Plummer's pill, blue pill, or a few grains of Hydr. c. Cretâ, with the compound rhubarb, or aloes and myrrh pill, and the supersulphate of magnesia, or sulphate of soda, in infusion of roses, will be found the most available. The diet should at the same time be strictly regulated, all stimulants being avoided. Occasionally it may be useful to give the fixed alkalies, especially the Liquor Potassæ, in combination with a mild bitter, if there be want of tone about the stomach. These means will, together with the employment of proper local treatment, usually suffice to cure the disease. If, however, it should be found to resist them, it will be necessary to have recourse to other more active remedies, such as the diluted, nitric, or sulphuric acids. These should be given in full doses, and may most conveniently and agreeably be taken in the form of sherbet, with syrup of capillaire, of orange-peel, &c. in a large quantity of water. The tincture of cantharides, the Liquor Arsenicalis, or Donovan's solution, may occasionally, in very obstinate cases, be necessary, but should not be had recourse to except in extreme cases, and then only in accordance with due attention to the constitution of the patient, and the condition of the disease. I have very seldom had occasion to resort to these measures in cases of eczema of the scalp in adults, and never in children.

Although it is no doubt possible to effect a cure of ordinary cases of eczema of the scalp by constitutional treatment alone, as Dr. Crampton (Vol. 4 of Transactions of the Association of the King and Queen's College of Physicians) has fully proved, yet there can be no doubt that proper local treatment is of very considerable importance, for without due attention to this we shall fail in the majority of cases in curing the disease.

In the early stages, when the disease presents the character of simple chronic eczema, cleanliness and mild antiphlogistic means are alone necessary. The head should not be shaved, on account of the irritation thereby induced, but the hair must be removed by being cut off as close to the scalp as possible by means of a pair of curved scissors, so as to prevent the discharge from accumulating in and beneath it, and thus becoming an additional source of irritation to an already inflamed part. Warm poppy-head, quince-seed, or marsh-mallow fomentations, applied by means of a large soft sponge, or emollient bread and water poultices, must then be employed, for the double purpose of allaying irritation and removing scabs, so as to prepare the surface for the employment of other means. After the surface has been well cleared by these means the irritation will often be best allayed by the application of zinc or lead ointment, of linen rags soaked in olive oil, or of lint dipped in tepid lead lotion, and covered with oiled silk. The great point is to prevent the access of air, which always, especially in young children, increases very considerably any existing irritation.

When the disease has assumed a more chronic and inactive condition, passing into the eczema furfuracea, it will be necessary to have recourse to gentle stimulants. For this purpose a lotion, composed of from one to two drachms of the sulphuret of potass, either alone or combined with an equal quantity of the carbonate of the same

alkali, in a pint of plain, or of lime water, will be found one of the most useful applications, and one that has seldom disappointed me. The head should be well washed three or four times a day with this lotion, diluted, if necessary, to such an extent, as merely to produce a gently stimulating action. At the same time, an ointment, composed of from a scruple to half a drachm of carbonate of potass to the ounce of lard, or one of creasote in the same proportion, or that of the white precipitate, should be applied every night after the last application of the lotion. it should be washed off in the morning, and then reapplied, and in the course of six or eight hours washed off again; thus alternately applying and washing off the ointment at stated intervals during the four-and-twenty hours: this alternation of stimulus will be found very useful, and productive of more benefit than the continuance of any one application.

If a somewhat stronger stimulus be required, the affected part having fallen into an inactive condition, the Unguent. Hydrarg. Nitrat. diluted with spermaceti ointment, as recommended by Dr. A. T. Thomson and Rayer, the common sulphur ointment, as employed by Mr. Phillips, or a mixture of equal parts of this and tar or creasote ointment, will be found most useful. The latter application in particular, in combination with the sulphurous lotion already recommended, has proved of most service in my hands.

I have already on a former occasion* expressed my opinion of the oiled-silk cap, which is so commonly worn in cases of eczema of the scalp, and which, in my opinion, is a most injurious covering to the head; for by confining the perspiration it keeps the scalp in a constant vapour bath, by which means the skin is soddened, and that state of passive congestion, which it is our object to get rid of, increased. A thin linen cap, which should be changed as often as it is soiled, is by far the best and cleanest covering to the head.

The diet of children labouring under eczema of the scalp must be regulated by the condition of the system. When the disease occurs in florid robust children it should be as bland and unstimulating as possible, being principally confined to milk and farinaceous food; when occurring in weakly or scrofulous children, it should be as nutritious as possible, and meat may be given. Adults, labouring under this disease, must be strictly prohibited the use of spirits, wines, malt liquors, coffee, and all salted and spiced articles of food; unless this be attended to the practitioner will often be baffled, however carefully and judiciously he may conduct the rest of his treatment.

In conclusion, it cannot be impressed too strongly, that during the earlier stages of all eczematous affections of the scalp, the only mode of treatment, whether local or general, that is likely to benefit the patient, is one conducted upon mild antiphlogistic principles; and that it is only when the affection has acquired a chronic inactive character, and more particularly when it has assumed the furfuraceous condition, that local stimulation, even of the mildest kind, can be borne, or that those internal remedies, which are generally looked upon as exercising something of a specific influence on this disease, will act otherwise than injuriously.

It would be useless to give the details of cases of eczema of the scalp affecting children, as they are of too common occurrence to need illustration by particular instances; the following cases of the disease in the adult, will, however, serve to illustrate some of the points to which especial reference has been made in this paper.

Miss R., æt. 16, of lymphatico-sanguine temperament, rather stout, with light hair and blue eyes, has never presented any signs of scrofula, came under my care on the 14th of April of the present year (1845), for chronic eczema furfuracea of the scalp. The disease first made its appearance about three years ago, and has, with scarcely any interruption, existed since then. She has been subjected to a good deal of treatment, and has been taken to several of the German watering places with the view of removing the complaint, but without any benefit. When she came under my care, the whole of the scalp, the upper part of the forehead, the left temple, the mastoid regions, and part of the left side of the neck, were covered with thin dry,

* Treatise on Diseases of the Scalp, p. 58.

branny scales, of a greyish colour; the subjacent skin was red, and at times a serous fluid exuded from different parts of the affected surface; there was likewise slight psorophthalmia. The appetite was not as good as it ought to be; the tongue was slightly coated and flabby; there was occasional pyrosis; the bowels were irregular in their action; and menstruation, which commenced about two years ago, was neither sufficiently abundant or regular.

She was ordered—

℞ Pil. Plummer, Pil. Aloes c. Myrrhâ, aa. gr. v. every second night.

℞ Essentiæ Absinthii, ℥ss.; Liquoris Potassæ, ʒj.; Aquæ, ℥viss.; a dessert spoonful twice a day in water.

A mixture of equal parts of zinc and white precipitate ointment were directed to be rubbed into the affected parts every night, and a lotion of ʒj. of sulphuret of potass to 8 oz. of water to be used three or four times a day. She was likewise ordered to take an occasional dose of the compound decoction of aloes when neeessary. Under this plan of treatment, which was persevered in, she got speedily better, and at the expiration of less than six weeks there was not a trace of the disease left, nor has it since shown any disposition to return.

Miss S., æt. 21, of moderate conformation, with light hair and eyes, and the ordinary signs of the lymphatico-sanguine temperament, came under my care on the 14th Feb. 1844, for eczema furfuracea of the scalp, cheeks, temples, and neck, of six months' standing. The disease had occnrred without any very evident cause, and the parts affected presented very nearly the same appearances as those in the case just described; the skin was red, and covered with a number of dry furfuraceous greyish-white scabs, which were generally dry, but occasionally moistened by the exudation of a serous exhalation. The itching was incessant and very distressing; the bowels were habitually confined, seldom acting without medicine; the functions of the digestive organs appeared in other respects to be well and healthily performed.

She was ordered gr. v. of Pil. Aloes c. Myrrhâ every second night, with ʒj. of the Decoct. Aloes Comp. on the following morning; the ointment of the oxide of zinc to be rubbed in every night, and a lotion, composed of ʒj. of the sulphuret of potass and the same quantity of the carbonate of potass to 8 ounces of water, three or four times a day. This treatment was continued for a week. She was then ordered in addition a sherbet of diluted nitric acid in half-drachm doses twice a day. At the expiration of a fortnight, when, although she was taking a drachm of the diluted acid twice a day, the disease was very much in the same state as when she commenced the treatment, she was ordered to discontinue it; and the liquor arsenicalis, in two-minim doses, three times a day, was substituted for it, the disease being in that dry furfuraceous inactive condition, and the patient of that habit of body, in which this mineral is usually very well borne. She began the liquor arsenicalis on the 8th of March, and continued it until the 2d of April, having gradually increased the quantity to four minims three times a day, and having only been obliged to omit it once, on account of some slight gastric irritation produced by it. At this date, April 2d, the disease was perfectly cured, the redness of the skin had disappeared, there were neither scales or discharge, and the pruritus had entirely ceased. She was, however, ordered to continue the lotion for two or three weeks longer as a safeguard.

Anna T., ætat. 63, dressmaker, came under my care on the 8th of April, 1843, for eczema of the scalp of several years' standing. She is rather tall and spare, of a melancholic temperament, and has never before been the subject of any cutaneous affection. She attributes the present disease to mental distress, in consequence of some family misfortunes. Her habits of life are regular, and her general health good, with the exception of an habitually constipated condition of the bowels.

The disease presented the characters of dry chronic eczema; the scalp, which was tense and painful, tingled and smarted very distressingly, and was of a deep red colour, and somewhat glazed, being covered by thin laminated incrustations; there was frequently a serous exhalation from several cracks and fissures that existed

about it. Occasionally an acute attack came on, giving rise to much additional distress, and a considerable increase in the serous exudation. The patient was ordered to have the hair clipped as short as possible, to apply bread and water poultices to the scalp every night, to foment it during the day with decoction of poppy-heads, and to take Hydrarg. c. Cretâ, gr. iij.; Pil. Rhei Co. gr. v. every second night, with a dose of the supersulphate of magnesia in the morning. This plan was continued until the 19th with considerable advantage; the inflammatory action about the scalp being much lessened. She was then ordered to discontinue the fomentations, and to apply during the day the following ointment spread on linen:—

℞ Unguent. Zinc. ʒiv.; Cerati Plumbi Co. ʒij. Misce ut ft. unguent. The poultices at night as before, the pills and supersulphate of magnesia twice a week, and to take sulphuric acid sherbet, containing ten minims of the diluted acid, three times a day.

After a week of this treatment the improvement was very marked. The heat, redness, and itching of the scalp had much subsided, the exudation had lessened, and the part was altogether assuming a much more healthy character. The quantity of zinc ointment was now lessened, and that of the lead cerate increased, and the poultices at night were discontinued; the medicines being taken as before. This plan was persevered in until the middle of June, when the scalp had assumed a perfectly healthy appearance, the head, redness, and desquamation having entirely ceased, and the hair growing naturally.

[To be continued.]

KNOWLEDGE can neither be adequately cultivated nor adequately enjoyed by a few; and although the conditions of our existence on earth, may be such as to preclude an abundant supply of the physical necessities of all who may be born, there is no such law of nature in force against that of our intellectual and moral wants. Knowledge is not, like food, destroyed by use, but rather augmented and perfected. It acquires not perhaps a greater certainty, but at least a confirmed authority, and a probable duration, by universal assent; and there is no body of knowledge so complete, but that it may acquire accession, or so free from error, but that it may receive correction in passing through the minds of millions!—*Herschel.*

## REMOVAL OF A PORTION OF THE LIVER FROM THE HUMAN SUBJECT.

By JOHN MACPHERSON, M.D.
Howrah.

*(Commnnicated by the Author.)*

THE only notices that I have met with, on the subject of the excision of portions of liver, are the following.

In Blanchard's "Anatomia Practica Rationalis," Amsterdam, 1688, is to be found the case of a soldier, who was wounded by a sword in the hepatic region; the wound was succeeded by a profuse hæmorrhage and deliquium: on the cessation of the hæmorrhage, a morsel of the substance of the liver was removed by the forceps, and the patient recovered after many threatening symptoms. At the end of three years he died of fever. On dissection, a small portion of the lower part of the wounded lobe of the liver was observed to be wanting; the other viscera were sound.*

Professor Dunglison quotes a case from Dieffenbach's Journal, in which a boy fell on a knife, and a portion of the liver protruded. Without being aware of its nature, the surgeon in attendance cut it off with his scissors: no bad effects followed.—Americ. Medic. Intelligencer, vol. I, p. 191.†

The history of the second of these cases is very imperfect, and in both the portion of liver removed seems to have been very small.

I now proceed to the case which has fallen under my own observation, and which appears to be the first case of the kind of which a complete history has been published.

A Hindoo, aged between 60 and 70, was in June last brought in, a distance of six miles, to Howrah, with a spear-wound in the abdomen, about three inches above the umbilicus, and two inches to its right, through which a triangular portion of liver protruded, of about the size and shape of the four fingers of the hand, lying side by side. The wound itself did not exceed an inch in length, and was completely choked up by the liver. The man stated, that he had been stabbed in the dark about twelve hours previously, and that the liver came through the wound, as the spear was drawn out. It was

* Quoted in Hennen's Military Surgery.
† See Beck's Medical Jurisprudence.

added, that there had been very copious hæmorrhage, but the liver itself was not wounded, and though the patient was in considerable pain, the pulse was very little depressed.

My friend, Dr. C. M. Henderson, who was present, agreeing that it would be impossible to return the protrusion without enlarging the wound to the extent of several inches, it was resolved, rather than wait for the tedious process of sloughing, to remove it by the knife.

To prevent hæmorrhage, a ligature was applied tightly round the base of the protrusion, which was then cut off. Nevertheless, two arterial twigs bled very freely, and it was found necessary to take them up, and a double ligature was also passed through the stump, and tied on either side, when all bleeding ceased. No attempt was made to return the portion of liver which still filled up the wound, as it was of course desirable to prevent all risk of blood or of bile being extravasated into the cavity of the abdomen. For a day or two the patient was rather low, and had slight irritative fever, and the bowels remained costive. These symptoms, however, yielded to a few doses of purgative medicine, and in nine days the ligatures came away along with a small slough of liver; the wound granulated and healed, and the man returned to his home in three weeks. No bilious discharge occurred from the granulating surface of liver. The portion of liver removed, after having lost its blood, and being in spirits for some weeks, weighed $1\frac{1}{4}$ oz. Its surface is uneven, though not torn, and it is probably a portion of the edge of the right lobe, from near the notch between it and the left.

It is difficult to explain how so large a portion of liver could have protruded through so small a wound, even if aliowance be made for the size of the wound being diminished by the contraction of the abdominal muscles, and for the protruded portion becoming congested.

It is unnecessary here to allude to wounds of the abdomen generally, or of the liver in particular. (for in this ease the liver does not seem to have been wounded,) or to the extraordinary recoveries from almost every variety of them. Such cases are innumerable.

It has long been known, from the experiments of one of the Monros, that rabbits have suffered very little from having portions of their livers cut off. It was also known, that patients live for years after the loss of very considerable portions of liver by hepatic abscess, and may exist for months, with the whole liver converted into a mere cyst; but the actual removal of a considerable portion of the liver from the human subject, with so very little constitutional disturbance, even allowing for the patient being a native, is a fact of considerable interest in medicine and in physiology,

I may add, that the patient complained of a good deal of pain when the surface of the liver was touched, but that cutting through its substance hardly caused him any.

The old man appeared two months after, as prosecutor in his own case: he was in perfect health; there was a little puckering in of the skin about the wound, and the liver was evidently adherent beneath.

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### LEMON-JUICE USED IN SCURVY IN THE SEVENTEENTH CENTURY.

LEMON-JUICE was known to be a remedy for scurvy far superior to all others, more than 200 years ago, as appears by the writings of Woodall. His work is entitled "The Surgeon's Mate, or Military and Domestic Medicine, by John Woodall, Master in Surgery, London, 1636, p. 165." In 1600, Commodore Lancaster sailed from England with three other ships for the Cape of Good Hope, on the 2d of April; and arrived in Saldanha Bay on the 1st of August, the Commodore's own ship being in perfect health, from the administration of three table-spoonfuls of lemon juice every morning to each of his men; whereas the other ships were so sickly, as to be unmanageable for want of hands, and the commander was obliged so send men on board of them. (Purchas's Pilgrim, i. 149.)

It is to the representations of Dr. Blair and Sir Gilbert Blane, in their capacity of Commissioners of the Board for Sick and Wounded Seamen in 1795, that its *systematic introduction into nautical diet*, by a general order of the Admiralty, is owing. The effect of this wise measure (taken of course in conjunction with the general causes of improved health), may be estimated from the following facts. In 1780 the number of cases of scurvy received into Haslar hospital was 1457—in 1806 *one* only, and in 1807 *one!* There are now many surgeons in the navy who have never seen the disease.—*Herschel.*

ON THE TREATMENT OF

# UTERINE HÆMORRHAGE AFTER DELIVERY;

SHEWING THE INEFFICIENCY OF THE PRESENT PLAN IN SEVERE CASES, WITH THE DESCRIPTION OF AN IMPROVED METHOD OF APPLYING PRESSURE FOR IMMEDIATELY ARRESTING IT.

By J. R. Pretty, Esq. M.R.C.S.E. &c.

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The frequency and violence of uterine hæmorrhage doubtless depend much upon the management of the patient during the second and third stages of parturition. Many accoucheurs attend only to the perinæum, but Dr. Murphy has well pointed out in his lectures the necessity of also following down the contractions of the uterus; and to do so you are directed to stand by the side of the woman, and support the perinæum with your right hand whilst you follow down the contractions with your left. Thus irregular action or a torpid state of the uterus is greatly guarded against after the birth of the child, and the third stage of labour consequently shortened. Another means of effecting these objects is the proper application of a broad bandage directly you have liberated the child from its mother, for the purpose of (to use the words of Dr. Murphy), "affording a diffused and equable support" to the uterus, which the abdominal muscles frequently fail to do, on account of their not being well developed, and this being caused by the sedentary and luxurious mode of life too generally followed by women, and also from their tight lacing. Hence we find that severe cases of flooding occur more frequently in large towns, where these bad habits are more generally followed. As regards the treatment, we are told that it must be such as to produce contraction of the uterine fibres, and certain means are enjoined. Every experienced accoucheur knows that in severe cases this is easier to talk about than to effect, especially in mismanaged cases, where you are called in to assist the attendant. We also know that some of the worst hæmorrhages will occur after every precaution has been used, and when the delivery of the placenta has been properly managed. Of the usual means of arresting it, a principal one is cold, and this is often, though not always, very successfully employed, and some caution and discretion are required in its application. I know a lady who lost the use of her lower limbs for a considerable time, from the application of it, by one of our first accoucheurs, during a severe and almost fatal flooding. To shew that some tact and caution are required in the use of cold, I need only quote the words of Sir Richard Blackmore, (narrated in Denman's Midwifery), in a case of flooding. "If," said Sir Richard, "you had used less cold applications this patient would have died, and if you had continued them longer *you would have extinguished the powers of life.*" Ergot of rye cannot be depended on; it takes some time to act, and if it should excite the uterus to contract, it may cause it to do so irregularly (as the hour-glass contraction), and convert an external into an internal hæmorrhage. Opium is doubtless a very servicable remedy in restoring the tone of the system, and diminishing its irritability, but this is not a certain, though a tolerably safe remedy. I say tolerably safe, for we know that some women, as the hysterical, are peculiarly affected by this drug. The introduction of one hand into the uterus, and the other placed on the abdomen, and pressing the uterus between the two, may fail to accomplish your object; and there is a risk of fatal inflammation following so extreme a measure. Friction of the abdomen over the uterus has been resorted to, but this is almost playing with your case, and should any effect ensue it may be only a contraction of the anterior fibres. Lastly, we have pressure; and it is on this point that I would venture to direct the attention of accoucheurs. A grasping pressure by the hands, and a kneading motion, have been recommended, but these in some cases are far from being efficient. Dr. Ramsbotham gives a very fair and candid account of the means at our command in these cases, and owns that they will sometimes fail, and as a last resource transfusion is recommended. Should the student, however, look at some works on midwifery, he would think that he had only to follow the directions given, and that success must ensue. It is strange to see how au-

thors have followed one another, and that the treatment should differ so little in all. It is also singular that efficient pressure should have been so disregarded, especially when other means have been found to fail. The late Dr. Davis, however, departed from the path of his predecessors. He, in his work, seemed to rely chiefly on pressure, although he was not so successful in his mechanical contrivances here as elsewhere. Dr. Murphy states, inertia of the uterus is not common, and that it is frequently mistaken for a *suspended* action of that organ. I think it very probable that in severe cases the latter may first occur, and give rise to hæmorrhage, and as an effect of this an atonic state may ensue, and then comes the difficulty of rousing the uterus to its duty, and it is here where the good effects of well-applied pressure are so distinctly seen. Dewees says, that "the suddenly emptying of the uterus by the evacuation of the waters, and the rapid delivery of the child, are the most common causes of the atonic state of the uterus." I think this may be explained in the following way. In the operation for paracentesis abdominis, to use the words of an accomplished veteran surgeon, Mr. Samuel Cooper, "Whenever a considerable quantity of fluid is let out of the abdomen by tapping, the quick removal of the pressure of the water off the large blood-vessels and viscera may produce swooning, convulsions, and even sudden death, and to prevent this the whole abdomen must be equally compressed." A strong analogy, therefore, exists between this case, and that of hæmorrhage occurring from the cause just mentioned; and this is a very strong argument in favour of the application of the broad bandage after delivery, to prevent hæmorrhage ensuing. Dewees, and all authors of works of Midwifery, state, "that the uterus should contract before it (the hæmorrhage) can possibly be arrested. Now, after severe flooding, it is found sometimes impossible to effect this, and we should, if this were true, have no means of saving our patient; and I believe it is this notion, and the regarding these cases in almost too theoretical a light, and considering the treatment quite different from that of other hæmorrhages, that has caused the accoucheur to have only one object in view—an excellent, but occasionally an unattainable one. I need only refer the reader to the statistics in Dr. Churchill's work, as a proof of the insufficiency of the means at our command. It is there stated, that out of 230 cases, in the practices of some of our first accoucheurs, the average number proving fatal was 1 in 14. Doubtless, these parties may not have had the attendance of all these cases from their commencement, but still, I believe, that many of them might have been saved if an efficient means of applying pressure could have been obtained. Is it not probable that the pressure being suddenly removed by the birth of the child too quickly following the escape of the liquor amnii, or in some cases the too rapid birth of the child, or, even in others, where there is a predisposition to hæmorrhage, the birth of the child in the usual way, may not the removal of this pressure affect the abdominal veins, and thus influence primarily the circulation, and secondarily the uterus? If so, the effects, of course, would be milder in degree than in paracentesis abdominis, and the recumbent position of the patient would also prevent her feeling at first a sense of faintness. I think that it is not absolutely necessary to have a contracted state of the uterus to *temporarily* arrest the hæmorrhage, although this must occur before you can permanently stop it; and here, I think, lies the secret of the great advantage of efficient pressure, especially in the last stage of severe flooding cases: when you cannot excite the uterus to contract by it, you may mechanically arrest the flow, or the draining, without fearing its return by a movement of the patient, and then wait until the system has recovered its tone, and for the consequent contraction of the uterus. Should, however, the pressure be applied at its commencement, I doubt not but that the uterus would in general quickly contract; if not, you need not make it a matter of the first importance, as by using pressure in the way I shall describe, you arrest the hæmorrhage, and contraction will follow, and thus measures may be avoided, which, if they can be dispensed with, are scarcely justifiable. As to transfusion I believe it would become a visionary affair. Some accoucheurs may say they prefer

pressure by the hands because they can know how matters are going on, but it cannot be continued with sufficient force for any length of time without very great fatigue and uncertainty. I heard an eminent accoucheur state, that, as a dernier resort, he had been compelled, with the aid of an assistant, to use pressure thus for the space of eighteen hours! In the treatment of these cases we should also recollect that when there has been one gush, and that not renewed, the woman does not feel this loss as she would a much smaller quantity under different circumstances—as from venesection; for, as Denman states, "should every drop of blood which circulates in the uterus be discharged in an instant, it would be of no immediate consequence to the patient, the very existence of the uterus not being necessary for life;" but if this were not followed by permanent contraction danger must ensue from the demand made upon the system, and if you cannot excite contraction the loss of your patient is the consequence. But, if pressure is applied, you prevent the vessels refilling, and stop the drain upon the constitution, and the consequent successive gushes of blood. I will now say a little concerning the application of pressure. Professor Murphy has pointed out the principle on which it should be employed. Dr. M. uses a series of graduated pads, made of any material that can be procured at the time. Some of these are packed closely on each side of the uterus to prevent its sliding laterally, whilst others are placed over that organ, and the whole covered by one large pad and a bandage, which is to encircle the body, and be fastened as tightly as possible. The uterus by this means is thoroughly confined, and equally pressed on. This method might prove troublesome to a person unaccustomed to it, as some dexterity and time would be required in adjusting the whole properly, and when you have done so the pressure may not be sufficient. My father has for many years advocated the more efficient use of pressure, and has been in the habit of using a common tourniquet and a pad, made either of cork, or a book well padded with a napkin, and by these means he has been very successful, even in cases where he has been called in to assist, and when all other means had failed. An account of a very good case of this kind, showing the great advantage of efficient pressure over other means, appeared in the GAZETTE some three or four years since. It was this success that induced Mr. Elam, of Oxford Street, to make a bandage with a pad and a tourniquet, which he thought would be approved of by the profession, and I believe that he has sold a great many of them; but we cannot by the use of his belt, &c. accomplish all the objects that could be desired. If the reader will recal to his memory a dry pelvis, he will perceive, from the prominence of the anterior part of the crista ilii, and also that of the anterior border of this bone, especially the anterior superior spinous process, that the pressure of Mr. E.'s broad bandage can only tell upon his single pad, and that the sides of the uterus are left unguarded, and, consequently, from its unfixed condition, it might slide into either iliac fossa, and thus escape from pressure. This evil is also increased by his having contrived a peculiar tourniquet, the turning the screw of which to tighten the bandage, raises the latter at the same time, and causes a downward pressure on the pad, and thus a complete arch is formed, and the bandage still more separated from the sides of the uterus.

In conversation with Mr. G. Epps, some time since, I recommended to him the use of the tourniquet, and advised him to see Mr. Elam's contrivance; he did so, and ordered Mr. Coxeter to make him one on the same principle, with these modifications. The broad bandage was made of linen, neatly stitched, like ladies' stays, and Mr. Coxeter's tourniquet was attached to it. Mr. Coxeter also suggested and made a very useful addition to it, viz. a narrow band attached behind to the broad one, so as to tighten the whole without displacing parts in front. When it was completed I was asked to see it, and found that it possessed an improvement over Mr. Elam's, in the belt not being raised from the pad when it was tightened; but this great defect existed, viz. the central pad was not stiff, and had no metal plate behind it to diffuse the pressure, so that when the screw was turned the upper and lower borders was relaxed. I gave Mr. Coxeter directions to make an oval

concavo-convex pad, with a metal plate attached. The shape of this pad is quite different from that of Mr. Elam's.

The same objection, however, holds good in this case, although in a less degree, as in Mr. Elam's, viz. the want of lateral support to the uterus, and the danger of its sliding sideways, and escaping from pressure; and to obviate this, I first thought of lateral pads being added, but I found these would make the whole unnecessarily bulky, and have therefore contrived the following bandage and pads, which I believe will be found thoroughly efficient, and more portable than either of those that I have described. It consists of three pads, the central one being the largest; the lateral ones are the thicker and narrower, and fold over the central one when not required for use, and these can be carried separately from the belt, &c. and when together are not larger than a small book. The belt is of webbing about three inches wide, and is fastened by a buckle and strap. It has attached to it Mr. Coxeter's improved tourniquet, the screw of which is only one-half the length of the one on the old principle, and yet it raises as much web, so that this is easily carried. The application is very simple: you merely adjust the pads, pass the belt under the woman, and fasten it on the right side as tightly as possible, and then give the tourniquet screw one or two turns. You thus have a most powerful grasping pressure at your command, from which the uterus will not slip; the pressure is at the same time made as diffused and equable as possible, and to accomplish the latter point, I had one at first made larger than that which I have spoken of, but found that it was unnecessarily large. The lateral pads quite do away with the necessity of a broad bandage, as the use of the latter would be to afford support in front, which it fails to do; and the advantages of a narrow one are these,—it is more portable, it is more easily passed under the patient and fastened, and it presses behind only on bony structures, and not, as the broad one, half upon these and half upon the yielding soft parts above them. The lateral pads can be made pockets, with the metal plate behind, and to be filled with soft materials when required for use, as old linen, or they might be made air cushions, to be inflated when required for use, though it is doubtful if these last would thus answer. The stuffed ones are not at all too large to be easily carried in the pocket, and no one, save a very fastidious person (which an accoucheur is not likely to be) could object to carry them. However persons may differ from me in the views I entertain, I do hope that it will not prevent a fair trial of this apparatus; and I believe the only differences that can exist would be theoretical ones, as I feel convinced that these pads, &c. will be found equal to arrest violent

Fig 1

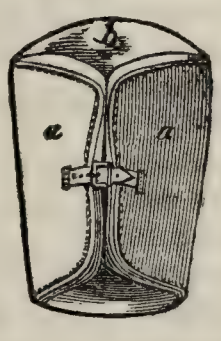


Fig 2

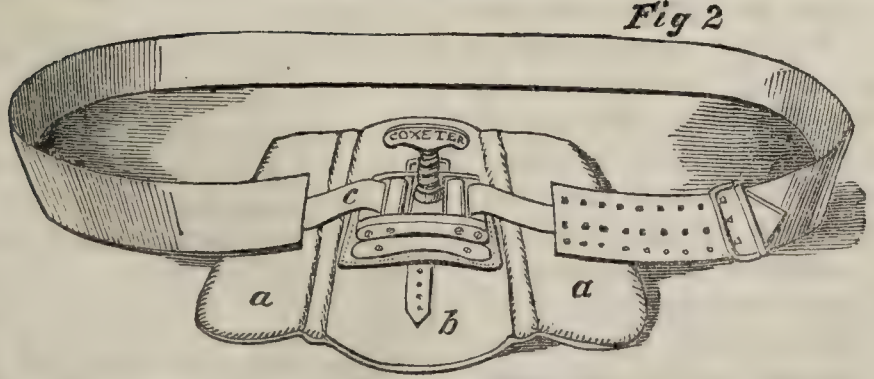


Fig. 1.—*a a*, Lateral pads; *b*, central pad. Measurement, when folded up, 6½ in. by 4½ in.; 1½ in. thick.

Fig. 2.—*a a* and *b*, Top margin; *c*, band and compress sarew.

flooding or the draining succeeding this, immediately, and that pressure thus applied will in time be considered the most safe and effectual means that we have at our command.

The belt, pads, &c. can be seen at Mr. Coxeter's, Grafton Street, University College.

Mornington Road, Regent's Park,
December 1845.

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CASES ILLUSTRATIVE OF, AND REMARKS UPON, THE

## PATHOLOGY OF OXALATE OF LIME IN THE URINE.

By J. H. Stallard, Esq.
Surgeon to the Leicester General Dispensary, &c.

[Continued from page 1375 of the last Volume.]

Mr. T. G., æt. 37, married, of sanguine temperament, had an attack of acute rheumatism 13 years since, which confined him to bed for some time, and to the house for three months. He has since had frequent but very slight attacks of chronic rheumatism, and has, ever since his first illness, suffered from a peculiar irritability of the bladder, being unable to retain much urine, and feeling considerable pain when voiding it.

March 18th, 1845.—I was requested by my father to examine him, as he suspected that he had stricture of the urethra. I found him with the following symptoms:—Pain along the course of the urethra, and up the side of the bowels, when the urine is passed; he compares it to the cutting of a knife; it is most severe after breakfast, the first time he relieves the bladder in the day. The urine is decreased in quantity, and it passes in a very small stream. The general health is exceedingly good; has no dyspepsia, and complains of neither depression of spirits, or any of the symptoms described by Dr. Golding Bird as the usual characteristics of the oxalate of lime diathesis. The bowels were constipated at the time of my visit, and were rather costive. A specimen of urine passed this morning was turbid, acid, sp. gr. 1030; with nitric acid it very quickly formed a cake of nitrate of urea, and the microscope discovered large octohedra of oxalate of lime. I may remark that Trommer's test yielded traces of sugar, though none was subsequently detected.

I ordered a dose of compound senna mixture to be taken every morning, with a view of watching the state of the urine.

19th.—Two specimens of urine were sent. The one passed on the evening of the 18th was acid, slightly turbid, sp. gr. 1024; and I found small octohedra of oxalate, with much epithelium and many organic globules. Urea was slightly in excess.

The other passed this morning was clear, of a very high colour, acid, sp. gr. 1022, crystals of oxalate small, and no excess of urea. Epithelium and organic globules abundant.

24th.—Since I last saw him he has had no violent pain; but though slighter, it still remains. Urine has been less abundant, and not passed so frequently. It is usually most turbid at night. He says he is quite well, takes a great amount of exercise, and sleeps soundly. He always perspires very much, even with little exertion, but the want of exercise always increases the urinary irritation. Bowels were opened by the medicine. He was ordered to continue.

25th.—The urine passed last night was of a bright amber colour, highly urinous smell, neutral, sp. gr. 1030 at 60° F. Oxalate in octohedra not very abundant; when treated with nitric acid, it after some time formed a mass of crystals. 1000 grains were carefully evaporated; they yielded 59 grains of solid matters, from which I obtained 18 grains of urea.

Urine passed this morning was very high-coloured, bright, and of a remarkably oily appearance; neutral. Sp. gr. 1030, 60° F. Octohedra small, not very abundant; much epithelium, and some organic globules. I give an analysis:—

| | |
|---|---|
| Water . . . | 940·4 |
| Urea . . . | 19·58 |
| Uric Acid . . | 0·5 |
| Soluble Salts . . | 12 |
| Insoluble . . | 3·75 |
| Organic Matters . | 23·77 |
| | 1000·0 |

He was now ordered a warm bath twice in the week, and the following—

℞ Acidi Nitrici Diluti, Acidi Hydrochlor. Dilut. Aquæ Fontan. aa. ℥ss. M. ft.

Guttæ. Sumat. coch. min. i. ex aquæ bis indies.

℞ Pil Hydrargyri, Extract Colocynth. Co. Extract Hyoscyami, aa. gr. x. M. ft. massa in pilulis vj. dividend quarum sumat i. omni nocte. His diet to consist of meat, with cauliflower, and, at his urgent request, a pipe of tobacco was allowed, with a little weak brandy and water, every night.

April 7th.—The urinary symptoms are very little improved. The urine is also of the same character.

Cont. Med. Omnia.

14th.—The urine passed last night was clear, slightly acid; sp. gr. 1029, 48° F. It deposited phosphates by heat, and there were many fine octohedra of oxalate and much epithelium.

The specimen passed this morning is clear, neutral, sp. gr. 1025, 50° F. Deposits phosphates when heated, and has abundance of octohedra. On the whole, therefore, the urine has improved, the quantity being increased, and there is now no excess of urea.

Cont. Med.

17th.—He has not been quite so well the last day or two; the urine is smaller in quantity, and the pain is greater. Countenance has of late much improved.

22d.—I to-day passed the catheter, he having said that the stream of urine was divided, and that micturition was very painful. I found two slight strictures, both of which were readily passed by a good-sized catheter. The urine is reported more abundant (half as much again as at this time last week). Urine passed last night clear, neutral, sp. gr. 1008, 54° F. I found no oxalate, but phosphates were deposited by heat.

That of this morning was clear, acid, sp. gr. 1015, 54° F. Many epithelium scales, but no oxalate crystals, were observed.

Cont. Med. To have the catheter passed daily.

The catheter to-day caused considerable pain, which lasted for some hours. During the last few days the urine has been less abundant: it passes the urethra freely, but leaves a deep-seated pain afterwards. The night urine was now slightly acid, turbid, sp. gr. 1031, 50° F. Urea in excess. Phosphates when heated, and abundance of oxalate of lime.

The morning specimen was high-coloured, clear, acid, sp. gr. 1028, and the other tests same as that passed last night.

He was ordered to omit vegetables as much as possible, and to take Infus. Diosmæ ʒiss. bis die with his drops. Catheter omitted.

May 7th.—Very much improved in every respect. The urine passed last night is clear, acid, sp. gr. 1025, 54° F.; and though the application of heat causes a deposition of phosphates, no oxalate could be found.

This morning's urine is clear, faintly acid, sp. gr. 1012, 54° F., and in all respects quite normal.

To continue his medicine.

From this time he gradually got rid of all the irritation, and is now quite well.

I have adduced this case to show how much irritation of the urinary passages may be induced by the presence of oxalate of lime in the urine. Surgeons have long been acquainted with the fact, that stricture of the urethra is common in gouty and rheumatic persons, independent of gonorrhœa, or other syphilitic disease; but its pathology is now clearly made known when we become acquainted with the fact, that oxalate of lime capable of producing so much irrita tion. Suspecting this fact, I was in duced to try the exhibition of the nitro-hydrochloric acid previous to the use of the catheter, and though I think its use was advisable, inasmuch as it prevented the formation of a permanent stricture, I cannot think it contributed in the least towards the cure; for the greatest improvement in the state of the urine occurred after the catheter was discontinued: and we may remark, that as the oxalic acid disappeared the quantity of urine increased, the specific gravity became lower, and the irritation of the urinary organs subsided.

Case III.—Mr. F., æt. 50, stout, sanguine temperament, suffered some years ago some serious loss, which much affected his mind. He has been for years a patient of my father's, and had passed several calculi of lithic acid, at the same time complaining of much dyspepsia. These attacks were very frequent. The tongue became foul, the appetite bad, the bowels constipated, and he complained of anomalous pains all over him. Under these cir-

cumstances he was usually treated with purgatives, alteratives, and, when there was much uric acid sand in the urine, alkalies; but nothing ever relieved him so much as change to the sea air. Early in the present year he applied to my father with an attack more severe than usual; and after taking a variety of medicines (for my father now considered him a confirmed hypochondriac), he consulted several other medical gentlemen, all of whom were of the same opinion.

August 2d.—He again consulted my father, who detailed his case, and requested me to examine his urine, which I found to possess characters similar to that of the former case, and under the microscope there were exhibited many octohedra of oxalate of lime. Bearing in mind the first case, magnesia with colchicum was given; the latter in grain doses of the acetic extract every night. These were continued for a fortnight, but without any success. The magnesia was continued until September 19th, and for the few preceding days he had been much worse, getting no sleep, although taking nightly one-fourth of a grain of acetate of morphia. I was now requested to see him. I found his general appearance good; he seemed stout and well, and though he represents his appetite as very bad, I found he took something very frequently, and was very fond of good dishes. His tongue was foul, and his bowels moved with great difficulty; urine normal in quantity, of high specific gravity, oily in appearance, usually clear, and presenting under the microscope abundance of oxalate. He complained of anomalous pains of the back and limbs, and his friends say that for many hours in the day he lies groaning upon the sofa, but will sometimes start up, and appear lively and well for a short time. Thinking that the colchicum plan had scarcely had a fair trial, I ordered the following—

℞ Magnesia Sulphatis, ʒj.; Vini Semin. Colchici, ʒj; Tinct. Hyoscyami, ʒiiij.; Decoct. Uvæ Ursi, ℥viiss. M. ft. mistura cujus capt. coch. maj. iii. ter indies.

His diet to be strictly animal, with a small quantity of potato with his dinner, which was to be plain mutton or beef. The meals were restricted to breakfast, dinner, a cup of tea, and bread and butter, and a cup of milk, or gruel, at night.

Sept. 21st.—Ever since he took the medicine last prescribed, he has been much worse. The paroxysms have been more severe, and almost constant. The bowels were freely opened; the dejections very bilious, but there was no relief in any way. I now prescribed—

℞ Magnes. Sulphat. ʒvj.; Acidi Nitrici Diluti, ʒij.; Tinct. Hyoscyami, ʒij; Decoct. Uvæ Ursi, ℥vijss. M. ft. mistura, st coch. maj. ter indies.

To have a shower-bath three times in the week, and to continue his diet as before.

Sept. 24th.—There is a manifest improvement; the paroxysms of depression have not been so long nor so severe.

Addatur Misturæ Acid. Nitrici Dil. ʒj.

He continued his medicine for six weeks with the best results. The paroxysms of depression have entirely left him. He feels stronger than he has done for years past, and is able to take abundance of exercise. His appetite is good; he takes all kinds of food with impunity, and though urged to occasionally take a dose of his medicine, he thinks it quite unnecessary, and has not done so during the last fortnight. The oxalate has entirely disappeared from his urine, and is now quite normal.

I remark in this case the inutility of the colchicum, and the absence of urinary irritation. The former, useful as it unquestionably is, when there is a trace of a gouty diathesis, was here hurtful, only increasing the gastric uneasiness; the absence of urinary irritation I attribute to the absence of that gouty predisposition, and to the fact that the quantity of urine was usually normal; the secretion being clear and less concentrated, was of course less irritating.

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### VEGETABLE THERAPEUTICS.

Among the latest French novelties, we find it stated, that a Dr. Robert, probably owing to a want of patients in the animal kingdom, has taken up the medical treatment of vegetables! Many diseased trees in the Champs-Elysées have been placed under the care of M. Robert, and some which had been given up have perfectly recovered under the cataplasms of this ingenious Frenchman. *On diable la Medecine va-t-elle se nicher?*

# MEDICAL GAZETTE.

FRIDAY, JAN. 16, 1846.

In our last number we were unable to give the usual Table of the births and deaths registered in the metropolis, for the preceding week, owing to certain alterations which were then in progress. We have now before us the first number for the new year, of which an abstract will be found at p. 132. There is a considerable addition to the information usually contained in the Tables; and it is only an act of justice to the Registrar-General and those who are associated with him, to state, that all the alterations now made are improvements upon the old plan: they are likely to prove of great benefit in a medical point of view, and to assist in advancing the science of medical statistics. Hitherto, the first page has been blank: it is now occupied with a summary of the causes ot death. The second page gives a summary of deaths in districts, with a short account of all the cases of "violent death" enumerated in the Table. These amounted, during the week, to 92. Among the particulars are stated age, sex, occupation, cause of death, and the number of cases in which a post-mortem examination was made. With regard to the latter item, we find that there were 9 inspections out of the 92 cases of violent death, or, 1 in about 10 cases! It is not improbable that some medical practitioners omitted to state, in certifying the cause of death, whether an inspection had or had not been made. For instance, Case 24 represents death from rupture of the duodenum, the deceased having been accidentally run over. An injury of this kind is not likely to be ascertained by an external view; and as there is no notice of a post-mortem examination, we presume the omission rests with the medical practitioner: the same omission appears to exist in a few other cases. We therefore take this opportunity of advising all professional men to aid the Registrar-General in his laudable efforts to improve these Tables, by giving, in every instance, a perfect medical certificate. They should remember, that in doing this they are benefiting the science of medicine, and leading indirectly to great improvements in the treatment of disease, as well as in the prevention of accidents to which the inhabitants of large towns are continually exposed.

The medical certificates of the cause of death, recently issued by the Registrar-General in a printed form, have been made as complete as possible. The filling up of the spaces involves so slight an amount of trouble, that no practitioner, when he considers that the good of the public and profession is at stake, can object to make the little sacrifice of time, which the performance of this duty entails. The certificate requires the name of the deceased, age, date of death,—the cause of death,—duration of disease,—specification of primary and important secondary diseases, with the period between the attacks; and the fatal termination in hours, days, or years, with a plain statement whether a post-mortem inspection has or has not been made.

Let any one consider the important influence which a proper registration of such facts as these by medical practitioners, must have over questions of life-insurance, in aiding the formation of correct estimates respecting the rate of mortality at different ages, in the two sexes,—from different diseases, in provincial and town-populations,—the progressive increase or decrease of diseases: — the influence of medical

treatment in arresting the progress and mortality of epidemics,—and we believe that any selfish thought respecting the trouble incurred, will be immediately banished from his mind. The efforts of private individuals formerly effected for life-insurance, what is now being accomplished by the Registrar-General in a universal, and, therefore, in a more perfect form. Hence arose the Carlisle and Northampton tables; the assumption of a higher rate of mortality and a lower average duration of life than well-observed facts now warrant. Hence, also, arose the high profits made by some Insurance companies, and the limited extent of life-insurance among the population by reason of the high premiums required. As a natural consequence, when these facts came to be better understood, a competition ensued, which has not yet probably reached its highest point; for we even now find Insurance companies springing up on every side for the benefit of particular classes and professions.

Another useful purpose which a complete registration secures, is to place in a strong light before the public, the manner in which coroners' inquests are at present conducted. If a person is murdered by drowning, hanging, or suffocation, it is considered something extraordinary at the subsequent trial that the medical witnesses should be unable to give any satisfactory account of the appearances usually met with in these forms of death. The counsel for the prisoner—it may be the chief law-officer of the Crown, the Attorney-General himself—will call upon the jury to acquit the accused from the want of satisfactory medical evidence of the cause of death: in eloquent language, he will appeal to their humanity, whether it would be safe to convict the unfortunate prisoner at the bar, whose life depended upon their decision, on the loose evidence of a medical man who confessed that he had never inspected, before the present occasion, the body of a drowned, hanged, or suffocated person! This is the common course of forensic eloquence; and our readers must be well aware of the success which usually attends it. Any reasonable man, witnessing the result of such a defence, would suppose that the fault lay with the medical witness, for not making use of opportunities which were daily thrown open to him. But what is the fact? There are only two ways whereby this experience, which forensic eloquence thus demonstrates to be so necessary to the proper administration of the criminal law, can be acquired—1, by medical men drowning or hanging their patients occasionally, in order to obtain a satisfactory knowledge of the post-mortem appearances; or, 2dly, by being permitted to inspect the bodies of those who die from these causes by accident or suicide! We need hardly observe, that the latter is the only practicable method; and the Registrar's new table throws a very interesting light upon the manner in which encouragement is given to medical men, to provide themselves with that knowledge which the crimimal law so frequently requires from them. In the ninety-two cases of violent death during the weeek, there were *eighteen* from drowning, *four* from hanging, and *four* from suffocation—in all, *twenty-six cases* of death from forms of violence which give rise to frequent charges of murder, without a *single inspection!* There is assuredly something disgraceful in the toleration of such a system. It is absurd to contend that the coroner's inquest is not intended to supply medical information, when that information is essentially demanded for the purpose of the law, and there is no other source from which it can be by

any possibility acquired! We trust the day is not far distant when this system will be amended; and the office of coroner will pass entirely into the hands of well-trained medical men. In the meantime, the verdict of found "drowned" is an absurdity; the *verum dictum* should properly be, found "in the water!"

The third page of this interesting table presents a new feature in the returns. Thus we have here the causes of death as returned by the medical officers of eight metropolitan hospitals, and a long list of special cases from private practitioners in medicine and surgery. With regard to the hospital returns, we would suggest as a proper addition that the number of patients in each hospital should be appended, or the relative mortality may be erroneously estimated.

The meteorological tables are also given in a more concise form. The document is, on the whole, of great value to every medical practitioner. It is our intention, as usual, to transfer weekly to our pages all those points which appear to be of especial interest in relation to the practice of medicine and medical statistics.

We cannot close this notice without offering a suggestion to the Registrar-General, to the effect that by means of these Tables, a yearly necrographical map of the metropolis might be produced, on the same principle as that adopted in the preparation of orograghical and hyctographical charts of the world. The relative mortality of metropolitan districts might be represented by the depths of shade,—the localities in which particular diseases, such as small-pox, measles, and typhus fever, have fatally prevailed, might be further indicated by lines, or zones, (isonosoical) or isolated patches of various colours. This might eventually become the basis of a general necrographical chart of England and Wales. The amount of information which plans of this description convey can only be understood by those who have had occasion to refer to them for other purposes: and as a splendid illustration of the manner in which difficulties, at first sight insuperable, may be overcome, we would refer to the Physical Atlas of Berghaus and Johnston, now in course of publication.

## Reviews.

*A Memoir on Amputation of the Thigh at the Hip-Joint. (With a Successful Case.)* By WILLIAM SANDS COX, F.R.S. Senior Surgeon of the Queen's College Hospital, Birmingham. Folio, pp. 47. London: Reeve. 1845.

A SKETCH of the principal details of the successful case of amputation at the hip-joint, referred to in the above title, will best convey an idea of the mode of operating advocated by Mr. Cox in the memoir before us.

"CASE.—E. P., a sempstress, now aged 23, was admitted into the Queen's Hospital, under Mr. Cox, on the 20th of July, 1842. She stated that she had undergone amputation of the left leg, above the knee, fourteen years ago, in consequence of disease of the knee-joint; that she remained in the hospital two months, and that the stump was not quite healed when she was discharged; that, about a month after this period, the integuments around the cicatrix ulcerated, and a substance formed on the posterior surface of the stump, which was extremely painful; that the ulceration healed from the centre towards the circumference, and that it never entirely cicatrised; that about six years after the operation, the integuments became hard and thick, and that she experienced a sensation as though pins and needles were sticking in the stump; at length fungous growths showed themselves on the surface, and the parts became more and more painful. The patient had been submitted to various plans of local and constitutional treatment, from all of which she derived little or no benefit.

"July 1st, 1844.—The stump presents the following appearances. The integuments, extending upwards, anteriorly, for about three inches and a half, are of a dull

white colour, and of a cartilaginous hardness; and above this, for a limited extent, anteriorly, posteriorly, and laterally, the same parts have a glazed, corrugated appearance, like that presented by an old cicatrix. Patches of fungous growth, of a livid colour, protrude from a half to one-third of an inch from the general surface, at intervals. From these excrescences, blood occasionally exudes, and at times a sanious fluid. These excrescences are extremely tender, and bleed on the least touch. The integuments of the upper part of the stump are of a perfectly healthy character and feeling. There is no enlargement of the cutaneous veins, or of the inguinal or femoral glands. The stump generally is tender to the touch; the pain nearly constant, sometimes of a dull aching character, at other times throbbing. Her disposition is remarkably mild and placid; her complexion clear:—she is inclined to *embonpoint*. She states that her general health has been good. Various topical and constitutional remedies having again been employed, but to no purpose, it appeared to the narrator a very favourable case for amputation at the hip-joint, the only operation likely to be attended with permanent success. This operation was therefore resorted to November 1st. Amputation was performed by an anterior and posterior flap, this plan affording greater facility for restraining hæmorrhage from the femoral and profunda arteries, and the formation of a better line of union. The existence of a patch of fungoid growth on the inner and posterior side of the stump, within about three inches of the anus, precluded the operation by lateral flaps, had such a mode been preferred.

The patient was placed on a table, the nates slightly projecting over its edge; the horse-shoe compressor, invented by Dr. Segnoroni, of Padua, and manufactured by Messrs. Weiss, was applied to the external iliac artery, as it passes over the body of the os pubis, so as completely to command the flow of blood through the arteries, without impeding its return by the veins. Mr. Knowles took charge of the right leg, the compressor was placed in the care of Mr. Parker, and the stump was entrusted to Mr. Moore. The point of a narrow double-edged knife, twelve inches in length, was introduced at an inch below the anterior superior spinous process of the ilium, and carried across the neck of the femur, parallel with, and a little below, Poupart's ligament, beneath the muscles of the anterior region of the thigh, beneath the femoral vessels, and brought out about an inch below the margin of the anus; it was now carried downwards, on a line with the anterior surface of the femur, from three inches to three inches and a half, and then brought obliquely downwards and forwards through the integuments. The flap thus formed was immediately thrown back, and the capsule of the hip-joint fairly exposed. The flap was retained, and the vessels compressed by Mr. Parker. The stump being now slightly depressed and abducted, the capsule of the hip-joint was opened, and rotation outward, and depression being simultaneously effected, the head of the femur slipped, without any force, from the acetabulum. The ligamentum teres was then divided; the posterior layer of the capsule, the extensor muscles of the hip and small rotators were separated from the trochanter major, and the knife passed downwards, on a line and close against the posterior surface of the femur, for about three inches, and then carried downwards and backwards, through the integuments posteriorly. The surface of this flap was immediately covered with a sponge by Mr. Knowles. It was now ascertained that the compressor completely commanded the hæmorrhage from the anterior flap; the posterior arteries were therefore first secured; namely, two muscular branches, and the descending branch of the ischiatic artery. The superficial and deep femoral arteries were then tied. All hæmorrhage now ceased. The operation was completed under 35 seconds; all the vessels were secured under five minutes, and not more than four ounces of blood were lost during the operation. The flaps were now brought into apposition; they fitted admirably, and were retained in contact by long wide strips of adhesive plaster; and near the outer angle of the wound a long suture was inserted. The stump was supported by strips of bandaging, attached before and behind to a broad belt, carried round the waist, and still further supported by a square pad, covered with oiled silk, to the four corners of which were attached leather straps, which straps were connected anteriorly and posteriorly to buckles attached to the belt. The operation and dressing were well borne, but great collapse and hiccough ensued, which yielded under the use of mild sedatives. The subsequent progress of the case is then detailed at great length; the patient chiefly suffered from pains in the stump and abdomen, which were probably latterly of an hysterical character. The posterior flap included a small patch of fungoid growth, which was afterwards completely destroyed by caustic during the progress of the cure. In the after treatment, opium was sparingly administered. Mr. Cox doubts very much the propriety of its employment under ordinary circumstances after operations. It may, he considers, allay the pain and irritation for a time, but he is convinced that the depression which succeeds its administration more than coun-

terbalances its good effects; and it, at the same time, checks the secretions of the chylopoietic viscera. The patient was placed in a lofty separate ward, and the temperature was most carefully maintained at 60°. Little or no meat, wine, or beer, was allowed. The healing of the stump, upon the whole, progressed favourably. She was discharged with the stump perfectly healed February 5th. Up to August 12th, 1845, the patient has continued in robust health.

The tumor was proved, by microscopical examination, to be of a malignant character.

The above case is prefaced by a history of the operation of amputation at the hip-joint; a brief sketch of the cases in which it has been performed; remarks on the causes which may render the operation justifiable; and a review of the methods of operating which have been recommended by various surgeons. The memoir concludes with a statistical table of the successful and unsuccessful operations of hip-joint amputation which have been performed in this and other countries. From this table the following facts may be deduced:—

That, during the period of a century, there have been recorded 84 cases of this description, of which 58 have been unsuccessful, and 26 (or rather more than 1 in 3) successful. With the exception of one, the precise result of which is not stated, the whole of the 26 cases given in the first table may be considered as affording unimpeachable evidence of the success of the operation. Of the unsuccessful cases 7 died from causes which appear to have been independent of the operation, such as typhus (2), plague, famine, ascites, chronic peritonitis, malignant disease occurring in a distant organ.

15 of the patients died from the secondary effects of the operation (within about 20 days) from such causes as the following: diseased lungs, tetanus (2); fever, (type not stated) (1); phlebitis (1); femoral vein tied); suppuration secondary hæmorrhage (1). Died from the remote effects of the operation (2). We think it may be fairly stated that about 15 out of the 58 unsuccessful cases proved fatal from causes which were not attributable to the peculiar character of the operation; and which would in all probability have been equally liable to result from a less severe amputation in the several cases.

11 appear to have died from the immediate effects of the operation.

20 cases are stated as "unsuccessful;" in 3, the causes and time of death are not mentioned.

The case of which this memoir is the vehicle does credit to the surgical skill of Mr. Cox. The value of the essay would probably have been as great had it been published in the form of a moderately-sized pamphlet; but this, of course, rested with the option of the author. For our own part, we do not conceive that the importance of practical remarks is increased in proportion to the width of the margins of the paper upon which they are recorded.

The showily-coloured frontispiece is useless, and in decidedly bad taste.

## Proceedings of Societies.

### WESTMINSTER MEDICAL SOCIETY.

Saturday, Jan. 10, 1845.

Mr. Fisher, President.

Mr. Wetherfield read a paper on the External and Internal use of Tar in Senile and other Chronic Eruptive Diseases. He claimed no credit for novelty, and illustrated the subject by cases of patients who had recovered under the treatment. The first case related was that of a gentleman, aged ninety, suffering under prurigo senilis affecting both legs. The common tar ointment was applied every third or fourth day, the parts being afterwards covered with an elastic roller. Under this treatment he recovered in a few days. Two cases of eczema impetigonoides, the first of eight years', the second of one year's duration. In these cases, the internal exhibition of tar in the form of capsules, each containing ten minims, three times a-day, was added to the external application, and, in a month, the disease was removed. Two children were shewn to the Society, who had suffered, for five and six years respectively, with eczema capillitii, extending, in the form of eczema, over all parts of the body and limbs. The treatment consisted of capsules of tar taken three times a-day, and tar ointment applied every day to all parts affected. Under this plan, continued for about two months, they perfectly recovered. Two cases of acne punctata, which had resisted all treatment, allopathic and homœopathic, for three years, and had disfigured the parties by the spotted and blotched face which

this disease induces, yielded to the same treatment in between two and three months. From three to six capsules were taken daily. A little of the tar ointment was applied at bed-time towards the end of the course, and washed off in the morning, and this only to the larger capsules. Mr. Wetherfield concluded his paper by stating, that his object in bringing this old remedy once more before the profession was to induce them to give it a trial, especially in the capsule, feeling persuaded that it would be found a valuable medicine, whenever it was requisite to excite the capillary system, either in the skin or kidneys.

In the discussion which ensued, it was stated by Dr. Merriman, that Alibert was in the habit of employing tar in several forms of eruptive disease with much success, and that Dr. Seymour employed it in the form of pills in pimples of the face. It was shewn that tar differed in its effects from creosote in these cases, as, in many instances in which tar had succeeded, creosote had been previously employed and failed.

Mr. HAWKSLEY, at the recommendation of Mr. Wetherfield, had used the tar capsules in a case of acne, with great benefit.

Mr. CHOWNE had employed it without benefit in cases of pruritus.

Mr. WETHERFIELD had used the capsules with a good result in cases of obstinate gleet and of obstinate chronic bronchitis; he had used the tar externally and internally, in a case of prurigo formicans, but sufficient time had not yet elapsed to determine that it was quite successful. The tar capsules were easily swallowed, even by children, and the remedy did not disagree with the stomach. It appeared to have a slightly aperient, a diuretic, and a diaphoretic effect.

Mr, HARDING made some general remarks on skin diseases. Tar ointment was extensively used in some of the provinces, Some skin diseases, as lepra, appeared to have a local origin, and were treated with success by local means, as application of nitrate of silver, or the strong acetic acid.

Mr. STEVENS, of Gower-street, exhibited a "pneumo-anatomical injection apparatus," an instrument intended to be used instead of the syringe, being constructed with a reservoir to contain the injection, and a condensing air-pump for condensing the air in the reservoir, and, by its pressure, to force the contents through a flexible tube fixed at or near the bottom into the pipes in use. It is needless to add, that by this invention it is not required to have a multiplicity of syringes, there being only two sizes required, that for minute injections—the reservoir being made of glass—and that for the injection of the entire subject—the reservoir being of iron.

## Hospital and Infirmary Reports.

### GUY'S HOSPITAL.

Jan. 16th, 1846.

*Case of Jaundice.*

Reported by DR. LLOYD.

MARY HARRIS, æt. 20, ægr. two months, admitted into Lydia, March 20th, under Dr. Barlow. A dark-haired girl, with grey eyes; of full habit of body. Says that her complexion is usually fair; it is now, however, of a deep yellow tinge. She is single, her occupation sedentary. Appetite always excessively large, and she appears to have been in the habit of indulging it with quantities of meat, and proportionate supplies of porter. She has had frequent bilious attacks, accompanied by sickness and vomiting of large quantities of greenish matter. These attacks always come on after some act of indiscretion in diet, such as eating pork, or too much of spiced dishes, pickles, &c. &c. of which she is very fond; but nevertheless, with these exceptions she has always enjoyed good health.

Her present attack commenced two months ago, by one of her usual bilious seizures, but of a much more aggravated character, commencing with retching, vomiting, &c. &c. for which she took, as usual, some bilious pills; but these not giving her relief, she applied for medical advice, but did not obtain much relief. After suffering in this way for a month, her friends remarked that her eyes and face were becoming yellow. This yellowness gradually became diffused over the whole body. She now noticed that her motions were very light coloured, and her urine extremely dark. She states that she had no irritation of the skin before the jaundice appeared, nor, indeed, has she had any at all. In addition to the sickness, she then became languid, listless, and depressed in spirits; with a sensation of heaviness over the eyes; great tendency to sleep, frequent pain in the right shoulder and right hypochondriac region; while her bowels became more irregular than they had previously been. These symptoms have continued, without much alleviation, up to the present time.

*Present symptoms.* — Face jaundiced; eyes deeply tinged; whole surface of a bright yellow, not at all of a deep cast; tongue large and flabby, slightly coated with a whitish fur; low-spirited; frequent desire to sigh. No cough. Chest resonant throughout. Auscultatory sounds healthy. Heart's action low, laboured, and irregular. Pulse 60; intense heat.

*Abdomen.*—Pain dull and deep-seated,

with an occasional twinge of a more acute character in the right hypochondriac region, where there is also some tenderness on deep pressure. Urine natural in quantity, high-coloured, and giving clear indication of bile. Uterine functions always regnlar, but the catamenial periods lengthened. This discharge is now present, larger in quantity than usual, and is dark-coloured.

C. C. ad ℥viij. lateri dext.; Pil. Hydrarg. gr. ij.; P. Antim. Pot. Tart. gr. $\frac{1}{8}$; Ext. Hyoscyam. gr. ij.; Ext. Coloc. co. g. v. ter die. Mist. Effervesc. 4tis horis.

21st.—Cupping very much relieved her. The sickness and pain of the side have gone, and her appetite has returned. The bowels have been relieved of a large quantity of lightish-coloured fæces, which do not appear quite destitute of bile. Urine high-coloured, of the usual quantity.

Perstet.

23d. — Improvement continues. The motions, which are very copious, contain some bile. No return of sickness, and she expresses herself as feeling very well.

She was ordered a mixture containing the sulphate of magnesia, with the carbonate, and to repeat the pills night and morning.

25th.—The jaundiced colour still remains in full force; her bowels are freely open, and the motions much more natural. Rep. Pil. Nocte et pt.

27th.—The colour is now evidently receding. Her motions contain bile. The urine is regaining its natural colour. Ext. Coloc. Co. gr. viij.; Hyd. Chlor. gr. ij. stat. et perstat.

29th. — Still improving. The yellow colour is strongest on the conjnnctivæ and breasts. Ant. Pot. Tart. gr. $\frac{1}{6}$; Ext. Col. c. gr. viij.; Ext. Hyoscyam. gr. ij. o. n.; Potass. Tart. ℥iss.; Ext. Tarax. ℈j.; Mannæ. 3iss.; Tr. Aurant. co. ℥j.; Aq. Destil. ℥vij. ter die. April 1st.—Bowels rather purged; in other respects improving. To have a chop. Omitt. Pil. 7th.—Going on well. Jaundice has almost vanished. Urine clear, and contains very slight traces of bile. Jul. Rhei Co. ter die. 10th.—There is still some slight tinge of yellow about her conjunctivæ, but very slight. The rest of the skin has almost regained its natural colour.

11th.—Discharged.

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ART is the application of knowledge to a practical end. If the knowledge be merely accumulated experience, the art is *empirical:* but if it be experience reasoned upon and brought under general principles, it assumes a higher character and becomes a *scientific art.—Herschel.*

## Medical Intelligence.

THE Grand Duke of Hesse Darmstadt has conferred the title of Baron on the celebrated Professor Liebig.

### TESTIMONIAL TO DR. ALDERSON OF HULL.

A SPLENDID testimonial has been recently presented to this excellent physician by the inhabitants of his native town. The presentation took place at a public breakfast which was given on the occasion of Dr. Alderson's retirement from practice in Hull. The meeting was attended by a large number of influential men, all friends and admirers of one, who has raised for himself a reputation which has extended far beyond the town in which he had for so many years practised.

The testimonial consisted of a massive candelabrum, three feet three inches in height, — weighing four hundred and fifty ounces, and valued at three hundred and thirty guineas. The design is of a classical nature, having especial reference to the healing art. The speeches on the occasion were very appropriate and the Doctor's reply was characterised by modesty and good sense. It is a great satisfaction to perceive that men who conduct themselves honourably in practice, are thus deservedly rewarded. There are undoubtedly many ways of getting on in the medical profession; but, these acts of liberality on the part of the inhabitants of great provincial towns, show that talent when united to honest and upright conduct, will always meet with its reward.

### PROGRESS OF PHYSIOLOGY IN FRANCE!

AMONG the notices in the Gazette Médicale we find the following copied from the Parisian Journals. "Two persons are immediately wanted for the purpose of being made the subjects (victims?) of experiments in physiology and therapeutics. A premium of six hundred francs will be given, with board and lodging, and some small perquisites!" As the editor remarks, this will furnish an excellent opportunity for determining the functions of the spinal nerves! We were about to pronounce this novel mode of settling disputed physiological and therapeutical problems perfectly "French;" but we have a sort of recollection that a late worthy baronet submitted himself to the rubbings and treatment of a notorious English quack for the benefit of others. The announcement may probably be regarded as a medical joke: if seriously carried out, the experimentalists may find themselves involved in the meshes of the French penal code.

OBITUARY.

On the 13th inst. at his house in Wimpole-street, in his 69th year, David Rowlands, Esq. M.D. F.A.S. and Inspector of Her Majesty's Fleets and Hospitals.

## Correspondence.

ON THE MICROSCOPE IN URINARY DISEASES.

Sir,—I have read, with mingled pleasure and surprise, the voluminous papers of Dr. Dick, on the "Various Forms of Dyspepsia," which have appeared in your admirable journal, during the last eight months; and frequently noticed that he differs in opinion from most of our best writers on the subjects treated. Many of his opinions may be perfectly correct, for aught I know; as few have had the opportunities of making observations on so enlarged a scale as would be necessary to contradict him. But in his paper in the Gazette of the 28th of November last, he asserts that the "*microscopical discoveries lately communicated to the world respecting the examination of urine,*" "*are microscopical indeed,*" "*as regards their degree of practical value and importance, as well as the physical minuteness of their subject,*" and "*there appears some risk that chemical diagnosis may be carried to a useless and even ridiculous minuteness and refinement.*" He also denies that the microscope is absolutely necessary for the discovery of oxalate of lime in the urine; and insinuates that its existence can easily be ascertained by its appearance alone: and says the "occurrence of oxalate of lime is comparatively rare," notwithstanding Dr. Bird's opinion to the contrary.

Although I have not, like Dr. G. Bird, the cases admitted into a large hospital under my care, yet I have so very frequently met with oxalate of lime in urine, without any decided symptoms to denote it, except general debility, that I can confidently say, in my practice it occurs much oftener than deposits of uric acid and phosphates: and so large and beautiful are the crystals generally, that my non-professional as well as professional friends have frequently been delighted at their exhibition under the microscope. In two of my domestics, who are rather out of health, I have often found it in the urine passed two or three hours after dinner. I am therefore inclined to adopt Dr. Bird's opinion as to its frequent occurrence.

In my opinion, urine containing oxalate of lime appears, generally, very much like that of health. It is usually, not always, of a higher specific gravity, and contains more urea, and commonly a little urate of ammonia: but I am not aware that I ever met with it in diabetic urine; and only once in alkaline urine depositing phosphates. I know of no other mode of detecting its presence than by the *microscope*, after a trifling chemical manipulation: but it is very easily detected in this manner. Far from thinking the microscopical discoveries of Dr. Bird and others in urine, insufficient, they appear to me to have thrown great light upon this useful and difficult part of pathology.

With respect to animal chemistry, it is the opinion of some of our best writers that we are now commencing an era, during which much of the darkness obscuring our present physiology and pathology will be dispelled—a change which will probably be effected through the "minuteness and refinement" of chemistry. The little I already know of the chemistry of urine has given me much information on the pathology of many visceral affections.—I am, sir,

Your very obedient servant,
E. J. Shearman, M.D.

Rotherham, January, 1846.

## Selections from British and Foreign Journals.

### CHEMISTRY.

ON A METHOD OF PREVENTING SALINE INCRUSTATION IN STEAM BOILERS. BY DR. RITTERBANDT.

Some experiments have been lately tried at Portsmouth on the method proposed by Dr. Ritterbandt for preventing the deposit of saline matter by the evaporation of water. The plans hitherto pursued have been chiefly directed to the collection and separation of the saline matter, as it is deposited; but Dr. Ritterbandt has proposed to substitute a salt, capable of converting the insoluble carbonate of lime into soluble chloride of calcium. This salt is the muriate of ammonia, or, as it is called in the patent, the chloride of ammonium.* We extract the following account from a report lately published:—

"One of the greatest difficulties with which engineers have to contend in the application of steam, is the incrustation of the

* It has been for a long time known that muriate of ammonia possessed a solvent action in the cold upon recently precipitated carbonate of lime, hydrate of magnesia, phosphate of lime, and other bodies.

boiler, producing not only a great expenditure of fuel, but often fatal explosions, especially in tubular boilers, as their peculiar form almost entirely prevents scaling or the application of other mechanical remedies. The experiments with the muriate of ammonia have been eminently successful in its application to the boilers of the Echo, under the superintendence of the patentee. The substance does not discolour the water, nor communicate to it any unpleasant taste or smell; it has no injurious effect upon the metal of the boiler; does not increase the density of the water, therefore does not produce "priming;" nor does its application involve any alteration in the boilers now in general use. The action of the chloride of ammonium is to change the carbonate of lime into chloride of calcium, which is not deposited by heat; and as the crystallization of other salts, such as the sulphate of lime, depends in a great measure upon contact, the absence of nuclei of solid carbonate prevents, in a great measure, their formation. In marine boilers this is very evident, for after adding chloride of ammonium, and thus preventing the precipitation of insoluble carbonate of lime, it is almost impossible to obtain crystals of common salt; thus "blowing off" is rendered almost unnecessary, in proof of which the George IV. commercial steamer, plying between this port and Southampton, worked 12 days without blowing off, by merely using a small quantity of the material every day, nor when the boiler was afterwards examined was there any exhibition of a tendency to deposit."

Remarks.—Having repeated Dr. Ritterbandt's experiments, we are enabled to say, that so far as relates to the carbonate of lime, which forms a very large proportion of these deposits in most kinds of water, the results were most satisfactory. The quantity of muriate of ammonia required to prevent precipitation on boiling was exceedingly small, certainly insufficient to affect materially the properties of the water, or to act on the metal in which the evaporation was carried on. Three ounces of an artificial calcareous water, prepared by passing carbonic acid into lime-water until the carbonate of lime was suspended, gave no deposit of carbonate of lime when boiled with one grain of muriate of ammonia. The same water became speedily turbid on boiling, when no muriate of ammonia was added to it. The liquid holding the muriate dissolved, remained quite clear, and the application of tests showed that ammonia, as well as carbonic acid, escaped during ebullition, while chloride of calcium was formed. The known equivalents of the bodies show that for every grain of carbonate of lime held dissolved in the water, rather more than one grain of muriate of ammonia will be required to effect this transformation. A gallon of the River water of the Thames, yielded about eight grains of carbonate of lime. About eight grains of muriate of ammonia would therefore suffice to prevent any precipitation of carbonate by mere boiling. If too much muriate of ammonia be employed, there will be some muriatic acid set free, since the ammoniacal salt invariably loses a portion of its base on boiling. The quantity of muriate of ammonia required to prevent deposit in any particular water, may thus be tested; for after boiling there should be no deposit, and the liquid should not be reddened on the addition of blue infusion of litmus; the resulting chloride of calcium not being decomposed at 212°.

The sulphate of lime and common salt are, it is well known, deposited owing to the loss of water required for their solution; the presence or absence of carbonic acid in the water does not affect them. We are, therefore, inclined to doubt how far the new method will operate, as it is alleged, in preventing the deposit of these salts. The chloride of calcium may render them more soluble, but it appears to us that the large evaporation of water, must ultimately lead to their forming an incrustation in the boiler.

The new process may perhaps be applied to domestic use where the spring water is particularly hard. The chloride of calcium would thus be substituted in dietetic use for carbonate of lime. It remains to be seen whether this substitution in a very small degree would affect the health.

We have applied the new process to water containing phosphate of lime, and with equal success. This salt is not a constituent of sea or common spring water, but it has been found by Prof. Graham in the water which issues from deep wells in the Chalk basin of London*. Phosphate of lime, like the carbonate, is suspended or dissolved in water by the excess of carbonic acid contained in it†. If the phosphatic water be boiled it is rendered turbid

* See p. 43.

† The phosphate may be obtained with the carbonate from a large quantity of water by adding about eight ounces of lime water to a gallon. The mixed deposit may be digested in a minimum quantity of nitric acid, diluted with water. The subsequent addition of ammonia separates any phosphate that may be present. Considering the solubility of phosphate of lime in water, and how largely this salt enters into the composition of the animal body, it is not a little surprising that it has not been "patented" as a medicinal agent, like its colleague, the carbonate of lime, now sold under the name of Carrara water!

We may here take the opportunity of remarking, that a worthy and indefatigable contributor to this journal, Dr. Dick, in one of his late communications, has strongly objected to the use of this carbonated calcareous water as dangerous (p. 1339, v. xxxvi.), and he appears to view with singular horror the short extract from Dr. Basham's paper in the Lancet, printed at p. 702 of the

and the phosphate is deposited. If muriate of ammonia be added before boiling, the liquid remains clear, but more muriate of ammonia is required for the purpose, than in the case of carbonate of lime. In this instance, the ammonia is evolved with the carbonic acid; and the muriatic acid set free, suspends the phosphate. Such water is therefore always acid, and may affect the metallic vessels in which it is boiled. Although the discovery of Dr. Ritterbandt may not have all the beneficial results which he and his friends have anticipated from it, it nevertheless removes one part of the evil, and he undoubtedly deserves credit for this new and ingenious application of chemical science.—Ed. Gaz.]

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last volume, because the extract was unaccompanied by a formal declaration of the danger of using it, &c. We are at a loss to account for these alarming apprehensions entertained by our correspondent. If the patentees have, naturally enough, prescribed it as a universal diet-drink, we have done no more than suggest that it might act as a useful and pleasant antacid in cases of acidity,—a fact of which we have since satisfied ourselves. It will be found much more palatable than magnesia, so much used for this purpose; and while it is equally effectual, we do not think that its use will be attended with greater danger. If the occasional use of such water is to be condemned because lime is sometimes found in the body in traces as "a morbid excretion," mixed with urate of soda, as a result of arthritic inflammation, &c. we may, even with greater reason, look upon the daily use of common salt, which furnishes soda, as attended with imminent risk! We differ from our correspondent, in entertaining the opinion that lime is not a noxious ingredient, but a most important and necessary constituent of the body; and as a proof of this we may observe, that there is not an organ or a healthy secretion in which traces of its salts may not be discovered. We daily swallow the phosphate in large quantities in bread and in all descriptions of grain. It would, indeed, be difficult to point out any common article of food, vegetable or animal, which does not contain a salt of lime. In the state of sulphate or carbonate, or both, we swallow it in every kind of wholesome water, and we cannot therefore agree in the opinion, that when occasionally taken in such small quantities as it exists in water, in the form of bicarbonate of lime, it can have any injurious effects whatever. We have never heard that the use of hydrargyrum cum cretâ, compound chalk powder, or the universally employed cretaceous tooth powders, produced any mischief from the carbonate of lime contained in them; and yet in one dose of the chalk powder, there is more carbonate of lime than would be contained in a gallon of the ordinary bicarbonated water! Our correspondent would do a great service if he would adduce *facts* to show in what respects lime thus taken as a carbonate in small quantities, is so highly injurious to the system. The waters of Carlsbad, Marienbad, Pyrmont, and Seltzer, contain a large quantity of this bicarbonate of lime. We are not aware that the use of these waters has given rise to morbid excretions of lime; and the fact of these excretions being occasionally formed in arthritic habits, would no more justify entire abstinence from carbonated calcareous water in other individuals, than entire abstinence from the use of common salt, because urate of soda is also in these cases a most abundant morbid excretion.

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## NEW TEST FOR STRYCHNINE. BY E. MACK.

Marchand has, for a considerable time, made use of peroxide of lead as a delicate test for strychnine, which he employs by mixing both substances with sulphuric acid containing nitric acid. I tried whether other readily de-oxidisable substances would not also effect the same changes of colour as the peroxide of lead. The first substance experimented with was peroxide of manganese. I mixed some nitrate of strychnine (which was obtained by dissolving pure strychnine in dilute nitric acid) with a little finely-powdered manganese, and then added a few drops of concentrated (English) sulphuric acid to the mixture; at once there was struck a deep blue colour, which shortly passed into violet, and finally became of a rose red tint; in 24 hours the liquid first assumed a dirty yellow colour. If it be heated in a test-tube, the changes of colour take place much more rapidly. If pure strychnine is mixed with finely-powdered manganese; and a little sulphuric acid containing nitric acid is then added to the mixture, the same changes of colour will occur.

I dissolved half a grain of strychnine in 100 grains of distilled water, to which a few drops of nitric acid has been added, and then mixed a grain of this solution with ten grains of peroxide of manganese; upon adding a little sulphuric acid to this mixture, there commenced at once the above-mentioned changes of colour, which became still more distinct when a little distilled water was added. In the same way I have been enabled to demonstrate the presence of strychnine in nux vomica. With brucine, morphine, narcotine, and quinine, no change takes place. When chlorate of potash was employed instead of peroxide of manganese, no change in colour could be detected. The principle of this test seems to depend on a higher degree of oxydation assumed by the strychnine. I mention this new test simply because manganese may at any time be readily procured; indeed, it is to be found in every apothecary's shop, whilst peroxide of lead is rarely to be met with, and can be obtained only by a tedious process.—*Heller's Archiv. für Chemie und Microscop., &c.* 1845, p. 300.

[Remarks.—We cannot agree with M. Mack that this is either a very delicate or easily applied test. It is true that the colours above mentioned are produced on mixing strychnine, dissolved in nitric acid, with either of the metallic oxides mentioned and a few drops of sulphuric acid; but unless the experiment be performed in a white porcelain saucer, the tints are liable to be obscured by the dark colour of the peroxide of lead or manganese. This is a very strong objection

to the employment of either oxide where the quantity of strychnia is small.—Ed. Gaz.]

## PATHOLOGY.

### CASE OF GUINEA-WORM.

The patient was an old soldier, who had been two years and a half in Senegal, where he had frequently walked on the damp ground barefoot. During the time he resided there, he never knew of any of the whites being attacked with guinea-worm, but it was common among the blacks. It was four months after his return from Senegal, exclusive of the time occupied in returning, that he first remarked a furunculous tumor on the dorsum of the foot, and another on the upper and outer side of the leg, a little below the head of the fibula. On making an incision into the tumor on the foot, a coil of guinea-worm (Filaria medinensis) made its appearance, but was broken in attempting to extract it. Abscesses formed round the ankle-joint, on opening which at different points, fresh portions of the worm presented, and were removed. The most curious fact observed was, that on pressing the upper tumor, a small quantity of a whitish liquid, like whey, escaped; and, on examining this with the microscope, it was found to be swarming with myriads of small cylindrical worms, having a tapering tail, and a soft but not inflated head. From this tumor there extended a hard cord, like a varicose vein, down the leg, and on opening this at two points two worms were extracted. The upper one, that which occupied the tumor, was found filled with a whitish liquor, containing myriads of the same cylindrical worms observed in the fluid pressed out of the tumor—in fact, young Filariæ. These young worms lived several days, and, provided the liquid in which they were was not allowed to become quite dried up, recovered on being moistened. They did not seem to revive when they were allowed to continue dried up for any length of time. These facts are important, as it was not known how the guinea-worm propagated, or got into the feet. M. Maissonneuve (under whose care the case fell) supposes that when walking barefoot on the damp soil of Senegal, one of these minute worms had buried itself under the skin, and had remained there unobserved till its increasing size had caused the part to inflame, and attract the notice of the patient.—*Ed. Med. and Surg. Journal*, from *Archives Générales de Medecine*, Dec. 1844.

[Remarks.—Instances of persons lately returned from the East suffering from Guinea-worm occasionally present themselves in our hospitals; and the management of these cases requires considerable tact and caution. We have seen one of these worms very neatly removed from a man's leg by securing the end of the worm to a piece of elastic gum catheter, and daily turning the cylinder in such a manner as at length to bring the whole of the animal away entire; but this method appears to be generally objectionable, as it is highly desirable that the worm should not be killed while under the integument, and this plan, of course, is liable to injure it. A very interesting paper on this subject was published by Mr. Scott and Dr. Kennedy, in the Edinburgh Medical and Surgical Journal. Mr. Scott found that when, from any cause, the worm perished, and became a foreign body, great mischief happened, and severe inflammations and suppurations ensued. He learned that the worm comes out more readily in a stream of running water. He directed one of his patients to immerse his leg in a bucket of water twice a day. The first trial promised well, as about three inches of the worm came out. He then laid aside all applications but cold water, and at last exposed the limb to the stream of a rivulet. On the third morning after this, the residue of the worm, twelve inches in length, came out with a very gentle pull. Dr. Kennedy gives the following account of the manner in which one of these worms was removed by a native operator:—"Having fixed upon the spot where the worm could be distinctly felt, he lifted a small portion of the skin upon the point of a common needle, and divided it with a small knife, and repeated these small incisions perhaps six or eight times until a drop of lymph passed out upon making the last incision. The wound was not much larger than might be covered by a barleycorn. Upon perceiving the lymph, the operator turned the needle, passed the blunt end of it into the wound, and under the worm, and brought out the duplicature of the worm upon the needle; this he seized with his left hand, and put it upon a firm but gentle stretch, employing the fingers of his right hand in pressing and kneading the surrounding skin, from the outermost extent of where the worm lay, in the direction of the wound, taking care to dip his fingers very frequently into a cup of cold water placed beside him for this purpose. In this manner the worm was extracted entire, in the space, perhaps, of a quarter of an hour. The worm was about two feet long. It appeared that he had seized it nearly about the middle of its length; and it was probably to enable him to form some judgment upon this point that he had been very minute in his previous examination." It is considered probable that the worm, when developed under the integuments, remains quiet until the period of discharging

its ova has arrived, when it makes an effort to perforate the skin, and to liberate itself for that purpose. For some interesting remarks on treatment by Dr. Robinson, *see* p. 70 of our last number.—Ed. Gaz.]

### THE TEMPERATURE OF THE MONTH OF JANUARY.

According to Professor Kaemtz, the minimum of the annual temperature in the Northern hemisphere occurs about the middle of the month of January, (the 14th.) The mean diurnal temperature according to Sir David Brewster's researches, occurs in this latitude at half-past eight o'clock in the morning. The extraordinary mildness of the present season is indicated by the fact, that on the 14th instant, the thermometer freely exposed in a north-western aspect, stood at the hour corresponding to the diurnal mean, ($8\frac{1}{2}$ A. M.) at 46°; while the mean temperature of the month of January is 36°1, the maximum 52°, and the minimum 11°. The long prevalence of southerly and south-easterly winds, bringing with them fog and cloud, have tended to raise the temperature of the season above the average, by preventing the loss of heat through radiation from the surface of the earth.

## BIRTHS & DEATHS in the Metropolis

*During the week ending Saturday, Jan. 3.*

| Births. | | Deaths. | | *Aver. of 5 yrs.* | |
|---|---|---|---|---|---|
| Males.... | 746 | Males.... | 583 | Males.... | 491 |
| Females . | 725 | Females . | 570 | Females . | 472 |
| | 1471 | | 1153 | | 963 |

### Causes of Death.

Col. A. Weekly Averages of 5 Autumns; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| All Causes | 1153 | 1020 | 963 |
| Specified Causes | 1143 | 1010 | 954 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* | 229 | 1 | 184 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat | 106 | 109 | 106 |
| 3. Brain, Spinal Marrow, Nerves, and Senses | 189 | 155 | 159 |
| 4. Lungs, and other Organs of Respiration | 305 | 323 | 292 |
| 5. Heart and Blood-vessels | 47 | 27 | 24 |
| 6. Stomach, Liver, and other Organs of Digestion | 75 | 68 | 71 |
| 7. Diseases of the Kidneys, &c. | 13 | 6 | 6 |
| 8. Childbirth, Diseases of the Uterus, &c. | 15 | 12 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c. | 7 | 6 | 6 |
| 10. Skin, Cellular Tissue, &c. | 8 | 1 | 1 |
| 11. Old Age | 54 | 74 | 70 |
| 12. Violence, Privation, Cold, and Intemperance | 95 | 27 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox | 7 | Convulsions | 46 |
| Measles | 67 | Bronchitis | 59 |
| Scarlatina | 19 | Pneumonia | 76 |
| Hooping-cough | 63 | Phthisis | 121 |
| Typhus | 41 | Dis. of Lungs, &c. | 18 |
| Dropsy | 5 | Teething | 13 |
| Sudden deaths | 23 | Dis. Stomach, &c. | 10 |
| Hydrocephalus | 47 | Dis. of Liver, &c. | 7 |
| Apoplexy | 32 | Childbirth | 9 |
| Paralysis | 26 | Dis. of Uterus, &c. | 5 |

Remarks.—The total number of deaths was 133 above the autumnal and 190 above the annual average! The deaths from Zymotic diseases, with the exception of Measles and Hooping-cough were below the averages. The mortality from Measles and Hooping-cough was double the averages. In the East and South districts, the mortality was above the average. In the others, it was below.

### ROYAL OBSERVATORY, GREENWICH.

## METEOROLOGICAL SUMMARY

Mean Height of Barometer .....29·89
„ „ Thermometer[a].....40·8
Self-registering do.[b] ..... max. 57·6 min. 21·5
„ in the Thames water. — 44·2 — 39·5

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·64: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was 4·7° above that of the mean temperature of the month of January (36°). The extreme hebdomadal range in the self-registering thermometer was 36·1°.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

Thursday, *Jan.* 8.—Nicholas H. Littleton, Saltash, Cornwall.—Alfred Lacy, Moxley, Derby.—Allen Pering Schuyler, Plymouth, Devon.

## NOTICES to CORRESPONDENTS.

Dr. C. Cotton's case will be inserted.

We have been again compelled to postpone the communications of several correspondents until our next number.

The Report of the Proceedings of the South London Medical Society will appear next week.

Mr. John Moore has written to inform us that the case of M'Coy, reported at p. 85 of our last number, occurred in the practice of Mr. G. B. Knowles.

*Received.*—Mr. Simking.—Mr. Moore.—Dr. Wardell.—Professor Owen.

Errata.—Page 76, col. 1, line 7 from bottom, dele "violent."—P. 78, c. 2, l. 13, from bott. for "persecution" read "prosecution."—P. 81, c. 1, l. 24 from top, for "irritating" read "unirritating."—P. 85, l. 5 from bottom, for "and continuous with this tumor, above the integument, was," read "and continuous with this tumor above,—the integument was," &c.

## Lectures.

### A COURSE OF LECTURES ON MEDICAL JURISPRUDENCE.

*Delivered at Guy's Hospital,*

By Alfred S. Taylor, F.R.S.

### Lecture II.

*The signs of death. Absence of respiration and circulation. Coldness of the body—circumstances which accelerate or retard the process of cooling—retention of warmth by the body—case—observations of Dr. Davy. Cadaverous rigidity—its seat—causes—period of commencement—occurs while the body is warm—circumstances which modify its duration—its successive appearance in the trunk and extremities—its effects on the countenance—condition of the hand—flexion of the fingers—translucency—state of the eyes and skin.*

A knowledge of the various changes which the body undergoes soon after death, may be usefully applied in two cases:—1. In the determination of the reality of death. 2. In determining the probable period at which death took place. We shall take up these signs in the order of their importance.

1. *Absence of respiration and circulation.*—The cessation of these two important functions, is regarded, as in itself, sufficient to determine the reality of death. But persons are now and then resuscitated from a state of asphyxia;—and others again recover from a state of lethargy or catalepsy, when, to all appearance, the respiratory and circulating processes are completely arrested. Life is certainly not incompatible with a temporary suspension of these two important functions; but, in making this admission, it is undeniable, that the processes must be speedily re-established, or death will assuredly follow. One remarkable case, that of Colonel Townshend, is recorded by Dr. Cheyne, in which an individual possessed the power of voluntarily dying as it were:—*i. e.* of suspending the heart's action, so that no pulsation could be felt in any part of his body. After lying in this state of lifelessness for a short period, life became slowly re-established; but without any volition or consciousness on his part. The longest period which this individual remained in this state was about half an hour. There is great reason to suppose, however, that the heart's action was not entirely suspended during the whole of this time, but that respiration and circulation were feebly continued at intervals;—so slightly as to be imperceptible to the examiners, or to be indicated by the pulsation of the radial artery.

In some works, on the subject of apparent death and asphyxia, you will find recorde numerous cases which are intended to show that respiration and circulation may be suspended for *many hours* and yet the individual be living. It is impossible to place any credit on narratives of this description, which generally rest upon hearsay or conjectural evidence. To suppose that the two important functions of respiration and circulation can be wholly suspended for even an hour, in a human being, without destroying life, is to set at defiance all physiological experience. Admitting the possibility of such a case occurring, it would require the best and most unequivocal evidence to support it. The phenomena of hybernation in many animals can have no reference to this question:—for in them, a final purpose is to be answered by the lethargy into which they are thrown. While it is natural for such animals to remain torpid during the winter season, or to exist under a feeble exercise of their functions of respiration and circulation, it would be an unnatural condition for a human being, and inconsistent with the maintenance of life.

There are some forms of disease affecting the nervous system, as, for example, hysteria and catalepsy, the symptoms of which are occasionally such, as closely to simulate death. Respiration and circulation appear to cease, or to be carried on so feebly, that, by uninformed observers, the persons affected may seem to be really dead. Certain tests have been proposed for the purpose of ascertaining whether the processes have ceased or not. I shall not allude to these, because they appear to me to be wholly inadequate to the purpose intended;—but in the absence of all *appearance* of movement in the chest and abdomen, the practitioner may readily satisfy himself of the fact of respiration and circulation continuing or not, by the occasional application of a stethoscope, or of the ear itself, to the parietes of the thorax in different parts, and especially to the region of the heart. This test, which seems to have escaped the notice of most medico-legal writers, cannot fail to give a satisfactory result.

It is also worthy of notice, that the alternate motion of the parietes of the chest and abdomen serves better as a means of diagnosis, and is more readily observed, than the motion of the chest alone: but if you wish to form an opinion from an external view of the body, in the absence of a stethoscope, an even piece of looking-glass, or plate glass, or even a basin of water, may be laid upon the thorax, and the image of some object allowed to be reflected from a window,

or other strong source of light. The slightest motion in the reflecting surface will be indicated by an alteration in the position of the object reflected. A well-informed practitioner can generally, however, determine the question without resorting to experiments of this description.

2. *Coldness of the body.*—One of the most striking characteristics of life, is the power which the body has of retaining a temperature, far above that of the medium in which it is ordinarily placed. Notwithstanding that the body is constantly subjected to the same laws of cooling, as all other heated bodies, *i. e.* by radiation and conduction; the supply of caloric internally from the secret sources of the economy, is so constant and uniform, as to counterbalance exactly the loss which is experienced. Some have made this function of calorification to depend entirely on the chemical changes produced by respiration; but there is very little doubt that the nervous system plays a most important part in its production or secretion. When, therefore, life is extinguished, the body will gradually lose the quantity of caloric which it possessed at the moment of death, just like so much inert matter previously raised to the same temperature.

The cooling of the human body will take place with varying degrees of rapidity, according to two orders of circumstances. 1. According to the manner, or kind of death. 2. According to the physical conditions under which it is exposed.

1. The coldness of the body is rarely complete, until after the lapse of *fifteen* or *twenty* hours from the suspension of life in an adult subject. Sometimes, it is true, the body cools much more rapidly than this. Thus, it may be found cold, even where death is occasioned by violence to an adult in a state of perfect health, in the short period of eight or nine hours. Circumstances are then commonly favourable to the loss of caloric. In the case of Millie, for the manslaughter of whom a man named Bolam was tried and transported some years since, the body, although clothed, is reported to have been found cold about nine hours after death. You will observe that this may occasionally form an important question in a case of murder, in order to connect the period of death with the act of an accused party.

When death has taken place suddenly, as from accident, apoplexy, or acute disease, the body has often retained its heat for a long period. It is said that those subjects who have died from asphyxia by hanging, or suffocation, or from the inhalation of carbonic acid gas, do not cool, *cæteris paribus*, until from twenty-four to forty-eight hours; and sometimes even *three days* may elapse before the body is completely cold:—I believe that this statement rests chiefly on the authority of Nysten. Too much importance must not be attached to it, since it is quite certain, from recorded facts, that, in some cases of fatal asphyxia, the body has cooled just as rapidly as in death from other causes.

It has been observed, on the other hand, that in those who have died from chronic disease, and in whom death has taken place slowly, the bodies have cooled very rapidly. They have been found quite cold on the surface within *four* or *five* hours after death:—at least, as cold as other subjects after the lapse of fifteen or twenty hours, who have died under reverse conditions. In such cases, coldness of the body is commonly manifested before dissolution, in those parts which are the most exposed, as the extremities of the hands and feet, the nose, and ears.

2. The physical circumstances which influence the rapid cooling of a dead body, are precisely those which influence the cooling of all heated inert bodies. 1. The medium in which it is immersed. A body will cool more rapidly in water than in air,—a fact which may be important in a question of survivorship in drowning; and it will cool more rapidly in a cold apartment, or under exposure to a current of air, than in a warm tranquil atmosphere. It will cool more rapidly in a large apartment than in one which is small.

The dead human body cools, 1st, by radiation; 2d, by conduction: consequently its own mass, as well as the nature of the materials with which it is in contact, must modify the results. The body of an adult, *cæt. par.* cools more slowly than that of a child, or of an old person: and a fat, or corpulent person, cools with less rapidity than one which is lean and emaciated. Again, when the dead human body is placed on good conducting substances, the cooling process will be considerably hastened. If, on the contrary, as is very general, it be wrapped up in badly conducting materials, as in flannel, or cotton, very soon after death, and allowed to remain on a bed, then a reverse effect is observed; for it will require much more than the usual period of time to cool.

Mere coldness of the body is not incompatible with the continuance of life; for many morbid causes may modify, or even altogether suspend the function of calorification in the living subject. Thus, in syncope, or hysteria, it is not unusual to meet with extreme coldness of the surface; but this differs from the coldness of death, in taking place *suddenly*, and in even preceding the state of lifelessness. It does not depend merely, as in death, on the slow and gradual loss of caloric by conduction and radiation;

because it is perceptible even when the body is placed in conditions under which a heated substance would not cool. Besides, the rectum, fauces, axillæ, and groins, will be found to retain a higher temperature than that of the surface. The malignant cholera has presented instances of this destruction of calorification during life more than any other disease; but the coldness here, which is even observable in the air respired from the lungs, occurs under circumstances that can leave no doubt of the individual being living:—therefore it is a fact, which, although pathologically curious, has no immediate relation to the subject of our present inquiry.

Let us take the opposite condition,—Can the warmth of the human body be retained in its normal state for any length of time after death? We might suppose *à priori*, that this question should be at once answered unhesitatingly in the negative. But the following apparently authentic case, reported in the Lancet some years since, is rather opposed to this view.

In October 1830, a servant girl, who had retired to bed in apparently perfect health, was found the following morning, as it was supposed, dead. A surgeon who was sent for pronounced her to be certainly dead, and stated that she had probably been so for some hours. A coroner's inquest was summoned for four o'clock of the same day, to inquire into the cause of death; and directions were given that a post-mortem inspection of the body should be made in the mean time. The reporter of the case was requested to give his assistance. Accompanied by the surgeon, who had been consulted, he went to the house about two o'clock. for the purpose of making the inspection. The deceased was found lying on the bed, in an easy posture, on her left side, her body forming somewhat of a semicircle. The countenance was pallid, but so perfectly placid and composed, as to give her the appearance of being in a deep sleep. The heat of the body, although she must have been dead *eight* or *ten hours* was not in the least diminished. The room was carefully searched, but nothing in the shape of poison, nor any other means of self-destruction, could be discovered: every article of apparel lay around, as it might be supposed to have been left, by a person going to bed in perfect health as usual. The heat of the body not diminishing, a vein was opened, and various stimuli applied, but without producing any sign of resuscitation. The respiratory and circulatory processes had ceased; no artery could be felt pulsating. Two hours had now elapsed since their arrival, and the parties still hesitated to perform the inspection, when a message was sent to them, stating that the jury were waiting for their evidence. The inspection was then commenced; but in moving the body for the purpose, the warmth and pliancy of the limbs were such as to give the examiners an idea that they were inspecting a living subject! The internal cavities were so warm that a very copious steam issued from them when they were laid open. All the viscera were healthy, there were no signs of disease;—nothing appeared to account for death, and from what they saw the inspectors regretted that they had not postponed the examination until the signs of death had been fully and completely manifested.

For obvious reasons, the name of the placee where this extraordinary case occurred, and the name of the reporter, were suppressed. He had evidently communicated the details in a fit of remorse for his precipitancy.

It is to be regretted, that in this case the heat was not accurately measured by the introduction of a thermometer into the mouth or rectum, as this would have been far more satisfactory than a mere conjecture from the feelings;—which are always very uncertain guides of temperature. It appears probable, that an unusual degree of heat must have been retained by this body for a long period after death. There were, however, two physical causes in operation, the influence of which does not seem to have been sufficiently appreciated. The individual died suddenly while in a state of perfect health, and until the time of inspection, the body appears to have remained in bed surrounded by badly conducting materials; *i. e.* the bed-clothes. There can, however, be but one opinion relative to the impropriety of inspecting a body under such circumstances, since the keeping of a coroner's jury waiting cannot be regarded as a sufficiently valid reason for inspecting a possibly living subject!

It is scarcely to be imagined that the function of calorification, should for an instant continue in the really dead: and yet certain facts connected with the malignant cholera, would almost seem to establish the possibility of this. In many cases of death from this disease in 1832-3, the body which had become moderately cold, was observed suddenly to resume its warmth, so that the temperature is stated to have risen some time after death as high as 87°, although circulation and respiration had entirely ceased. This singular phenomenon, like numerous others connected with that disease, has received no adequate explanation. The death of the parties, may have been only apparent and not real; and possibly, a sudden vital reaction in the nervous system, may have given rise to the effect observed. The very fact of its occurrence, must be taken as positive evidence of some vital power, still lingering about the system; for in real

death, the animal body, when it has once become cold, is no more capable of spontaneously generating heat within itself, than any of the inert and lifeless solids by which it is surrounded.

In a case of death from Asiatic cholera, Mr. Rumsey observed that half an hour after the perfect termination of respiration and circulation, the muscles of the arms underwent various motions of contraction and relaxation, continuing for upwards of an hour, and that although previously cold, they then became evidently warmer. The restoration of warmth after the body has become cold in such cases, can only be explained by supposing that there still remains about it, some lingering trace of vital action; although this may not be indicated by the presence of the ordinary signs of active life.

Unfortunately, the facts connected with the loss of heat in the dead body, have not received much attention from physiologists. There is considerable discrepancy concerning the natural temperature of the living body. The average temperature of the interior of the body in health, varies from 98° to 100°. It is liable to be increased in some diseases, and to be diminished in others. In one case of typhoid fever, M. Piorry states that he found the blood to have a temperature of 113°; and the temperature of the uterus during partarition, is said to have been found still higher. Dr. John Davy met with some extraordinarily high temperatures in the *dead* body. In a case of rheumatism, after the viscera had been exposed for nearly ten minutes, the mercury of a thermometer placed under the left ventricle rose to 113°, and when in contact with the lobulus spigelii of the liver to 112°. In a second subject, examined *six hours* after death, the thermometer under the left ventricle indicated a temperature of 108°, and when in contact with the lobulus spigelii 107°. In these cases, the patients were ill but a short time, and died suddenly, and the temperature of the apartment in which the observations were made, was 86°. Could this heat have existed before death, or was it the result of any change afterwards? It is impossible to say:—such exceedingly high temperatures have been, I believe, very rarely found in the *living* body: and making every allowance for the differences of graduation among thermometers and for the high temperature of the atmosphere, there was here a degree of heat which we may seldom expect to find in a body six hours after death. The observations made by Dr. Davy may probably serve to explain the facts observed in the case just now related; for they show that in some exceptional instances, the really dead body may retain for several hours, a temperature as high or higher than that found in the living subject.

The application of these facts, connected with the evolution of heat from the body, to the determination of the period of death and survivorship, will be a subject for consideration hereafter.

*Rigidity.*—Very shortly after death, and while the body is *in the act of cooling*, it is observed that the whole of the muscles become hard and contracted, so as to give to the membranes and trunk, that peculiar condition which is denominated *cadaverous rigidity*.

1. *Its seat.*—Experiment shows that the seat of this phenomenon is in the muscular system; for it disappears immediately on the removal or division of the muscles. It seems, according to the experiments of Béclard, to be wholly independent of the integrity of the nervous system: for a division of the nerves, leading to the particular muscles, or even the entire removal of the brain, has not been found to prevent it, or even to retard its occurrence. It has also been observed, that where death has taken place under paralysis, hemiplegia, or apoplexy, this cadaverous rigidity has been as strongly manifested by the muscles of the paralytic or hemiplegic, as by those on the healthy side. It is highly probable, that this rigidity is due to a vital action in the muscular fibre, and possibly, as John Hunter imagined, it may be the last effect of the vital principle on the muscular system. It is in general observed to take place simultaneously with the coagulation of the blood throughout the body. Some have considered it to depend upon this: but not to mention that the alleged cause appears to be wholly inadequate to the effect produced, the rigidity sometimes occurs while the body is warm and the blood fluid, therefore this cannot be the true explanation: moreover it closely resembles the rigidity of syncope and asphyxia, which can have no reference to the coagulation of the blood.

Rigidity is undoubtedly referable to the spontaneous contraction or rather stiffening of the muscles; until it appears, these organs are susceptible of the galvanic and other stimuli, but after it has ceased, this irritability of the muscular fibre is lost. The power with which these organs contract in the rigid state is far less than that observed, when they are subjected to the influence of volition in the living body. The contractile force is not so great, as to induce the least alteration in the position of the parts to which the tendinous extremities of the muscles are attached;—so that there is no displacement, nor is there any force of a counterbalancing nature, between flexors and extensors. The position in which the muscles may be, at the time of death, is that

which they retain during the state of rigidity, whether the body be lying, sitting, or standing, and whether the extremities be in a state of extreme flexion or of extreme extension.

2. The *time* at which rigidity occurs after death, as well as its duration, is affected by various circumstances. It generally commences within *five* or *six* hours, and lasts from 16 to 24 hours. Nysten, who investigated this subject very closely, considered that rigidity never made its appearance in the muscles, until the body had entirely lost its animal heat; but some of his own observations tend to show that this statement is not correct. Cases every now and then present themselves, in which after death the limbs become rigid while they are yet warm; and it is the same with the trunk.

The following case related by Dr. Chowne, shows the rapid access of cadaverous rigidity in a child, and its occurrence in the dead, before the entire loss of animal heat. This gentleman was called to a labour, and when he arrived, the child had been born about three quarters of an hour, and the midwife was then engaged in dressing it. One arm was a little raised and the hands were partly closed—these circumstances giving it the appearance of being a living child. He found, however, that it had actually been still-born, and that it had been part of the time in a warm bath. The other limbs were also stiff in about the same degree. The stiffness was unequivocal, there was no elasticity, as if it were the result of spasmodic muscular contraction — a joint being flexed it remained flexed. The midwife particularly observed the stiffness while the child was in the warm bath. The mother said the child moved, very perceptibly to herself, not long before its birth. Whether the skin was hot or cold is not stated, but the body of a young child cools very quickly. It is probable, from the midwife's statement, that the rigidity came on immediately or very soon after death.

I observed in a cat which had died from disease, that the body and limbs became perfectly rigid about an hour after death, while warmth was still very great throughout. The bodies of birds generally become rigid before they cool. I have also remarked that in animals poisoned by prussic acid, where emprosthotonos and convulsions of the posterior extremities ensued, that they died in a violent muscular spasm, with the limbs and tail perfectly rigid while the body was warm. This last condition, however, corresponds rather to what has been called cadaverous spasm than cadaverous rigidity. The difference between these two states will be a subject for after-consideration.

As more relevant to the subject before us I may mention to you, on the authority of M. Ollivier, an eminent French medical jurist, that in some cholera subjects, inspected six or eight hours after death, he found the members perfectly rigid, while the muscles which are the seat of this rigidity were still very warm, and the blood readily flowed from them.

As a *general* principle, however, we certainly do find that, until the body has in great part cooled, rigidity does not manifest itself to any extent; and when from any cause the cooling process is protracted, rigidity is equally protracted. *Cæteris paribus*, rigidity is always more strongly manifested and continues for a longer period, in those subjects in which the muscular system is healthy and fully developed. It has also been observed, that the time at which it appears after death in muscular subjects, is longer than in other cases, so that it may not supervene for 12 or 14 hours, and it may last for 24 or 36 hours. Rigidity is also said to be very slow in manifesting itself, in death from irritant poisoning,—apoplexy, hæmorrhage, wounds of the heart, decapitation, as also in all cases of asphyxia, especially in that form which arises from hanging, or from the action of carbonic acid. Some of these statements are open to exceptions. In a remarkable case of suicide from a fatal wound in the throat, observed by Dr. Handyside, the rigidity of the muscular system commenced while the body was yet warm, and was complete in *one hour and a half* after death. In one instance of suffocation from charcoal vapour, observed by Nysten, rigidity did not make its appearance until *sixteen* hours after death, and it is stated to have lasted for the long period of *seven* days. In other cases of suffocation this protraction of cadaverous rigidity has not been noticed.

In emaciated subjects, and in those who perish from adynamic disease, such as phthisis, typhus fever and the like, it speedily supervenes on death, and as speedily disappears. A notion has existed, that the bodies of those who perished from malignant fever did not become rigid: but this must be ascribed to error of observation; and is probably to be explained by the speedy supervention and disappearance of rigidity in such cases. At any rate this sign of death has never been found wanting by those who have made it a subject of close investigation. It is also very commonly stated, that the bodies of persons, who have been killed by lightning, do not become rigid. This statement, however, requires confirmation. Rigidity may have taken place and disappeared before the discovery of the bodies, in those cases in which it is stated not to have been found.

Atmospheric changes modify considerably the duration of this state. Dry and cold

air will cause it to persist for a long time; and thus it is, that during the winter season, especially in a frost, it is very slow in disappearing;—its mean duration being then from 24 to 36 hours. If the air be warm and saturated with humidity, it soon ceases.

According to Nysten cadaverous rigidity first appears in the muscles of the trunk and neck: it then takes place in the muscles of the upper extremities, and lastly in those of the lower. In regard to its disappearance, the muscles of the lower extremities will often be found rigid, while those of the trunk and upper extremities are again in a state of relaxation. *Cæteris paribus* it appears later and lasts longer in the lower extremities, than in other parts of the body. If Nysten's theory were true, that the rigidity depended exclusively on the loss of heat: it should appear first in the lower extremities and last in the trunk. His own observations therefore respecting the order of its disappearance are against his theory.

We may now proceed to inquire, whether the living body ever assumes a condition analogous to that of cadaverous rigidity. Tetanus, apoplexy, catalepsy, syncope and asphyxia, have been stated to present symptoms which might lead to doubt respecting the reality of death from this sign. There are, however, these striking differences. In rigidity from any of these diseases, the *warmth of the body* is commonly in great part *preserved*, if not on the surface—in the rectum, fauces and axillæ. The rigidity takes place *simultaneously* with the apparent suspension of life from the attack; and lastly, the whole of the body becomes equally rigid at the same moment, owing to the existence of a universal spasm. In order to distinguish this state of spasm in a really living extremity from the rigidity of death, it has been recommended to bend it forcibly;—if it be in a state of spasm, it will return to its original position, so soon as the bending force is removed,—if it be cadaverous ridigity, however, the limb does not return, but is afterwards free to move in any direction. In real death, however, other unequivocal signs must be present.

Rigidity takes place in the muscles of the countenance as well as in those of the body, and this it is important to bear in mind, since identity is so often mistaken when a corpse is seen about this period. The face is pale or sallow, the jaws fixed, the corners of the mouth drawn downwards—the temples sunk in and the brow contracted. Even those who may have known a person well during life, would scarceiy recognise him at this time, were they to see the body in a strange locality. These signs disappear in three or four days; a placid expression more resembling that of life is assumed, and the cheeks often acquire a degree of colour. At this time a person might be identified.

It has been observed that rigidity does not affect the position of the parts to which the muscles are attached; but a peculiar condition of the *hands* of the dead, observed by M. Villermè, would tend to show, that the fingers do assume a certain position by virtue of the contraction of the flexor muscles connected with them, although it is not quite established, whether this contracted state of the fingers, takes place at the same moment with the commencing rigidity of the body, or whether it be not an immediate consequence of dissolution. M. Villermè has remarked, that in the dead body, the thumbs are always bent inwards towards the palms of the hands, the apex of the thumb being opposite the base of the little finger; and the thumb itself being covered by the four fingers of the hand. M. Villermè found this condition in many subjects which had not been disturbed. Devergie supposes that this condition of the thumbs depends on a convulsive action of the fingers in the last moment of life; and as death may take place without any convulsive action, the appearance may be in some instances wanting. This sign of death, if it can be so called, is of but little importance; it will, however, be found in a large number of cases where there has been no interference with the hands.

As connected with this subject I may call your attention to another condition of the *hand* in the dead. If the hand of a living person be held before a strong light, it will be found to be translucent, and of a deep red colour from the blood circulating through it. The hand of a really dead person thus examined is stated to be in all cases opake. In applying this as a test, we must remember that a horny or hardened state of the cuticle, or a diseased condition of parts, may interfere with this translucency in the living subject: it is always better seen in the young and in those whose hands are thin. In these cases the fingers appear to be formed of a mass of blood: they have a deep red tint, except about the joints, where the colour appears lighter.

Medical jurists have also directed their attention to the state of the eyes and skin in the dead body.

*The eyes.*—Shortly after death, the cornea becomes dull, its brightness and prominence disappear, it becomes collapsed, and, after a time, wrinkled. Louis long since observed, that the eyes of the dead became flaccid and soft in a very few hours after dissolution; and this appearance he considered to be characteristic of death. It is necessary to observe, however, that this appearance is not always met with in the dead. In those who

have died from apoplexy, or from the inhalation of carbonic acid gas, the eyes have often preserved their brilliancy and prominence for a engthof time. This has also been observed in those who have been poisoned by prussic acid, or the essential oil of bitter almonds. Incipient and putrefactive changes may, by forcing the blood towards the head, cause a prominence and brilliancy of these organs, in those subjects in which they were dull and collapsed soon after death: but in these cases it will be unnecessary to seek for signs of death.

*The skin.*—After dissolution, the skin is observed to become extremely pallid, owing to the absence of all circulation. In some parts it becomes covered by livid or ecchymosed discolorations; and this is especially the case in those instances where death has taken place by sudden violence. One of the most striking changes in the skin is its entire loss of elasticity. In the living body, if any part of the surface be compressed, the skin will readily return to its original form on removing the pressure. Thus, in a doubtful case, a flatness of those parts which have been allowed to lie upon an even surface may be regarded as a sign of real death, provided the other concomitant changes be observable. It is unnecessary to observe, that if certain diseases have the power of depriving the skin of its elasticity, the history of these cases, or a superficial inspection of the body, will suffice to show to what cause this want of elasticity is to be attributed.

I believe I have here enumerated the principal external changes which take place in the recently dead body, so far as they are open to observation, with the exception of putrefaction; and we shall reserve the application of these facts to practice until our next meeting

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### MEASLES TRANSMITTED BY INOCULATION.

Dr. M. Von Katona, in a very malignant and wide-spread epidemic of measles, in the year 1841, inoculated 1122 persons with a drop of fluid from a vesicle, or with a drop of the tears of a patient with measles. It failed in seven per cent. of those on whom it was tried; but in all the rest the disease was produced in a very mild form, and not one of them died. At first, a red areola formed round the puncture, but this soon disappeared. On the seventh day fever set in, with the usual characters of measles; on the 9th or 10th, the eruption appeared; on the 14th, desquamation commenced, with decrease of the fever and the eruption; and by the 17th the patients were almost always perfectly well.—*Dr. Bennett's Report on the Progress of Pathology; British and Foreign Med. Review, from Oesterr Med. Wochensch.*

## Original Communications.

### A FURTHER STATEMENT OF FACTS AND OBSERVATIONS IN ILLUSTRATION OF THE NATURE AND TREATMENT OF FLOODINGS AFTER DELIVERY.

By Francis Adams,
Surgeon, Banchory.

"It is scarcely any where more striking what the influence of a previously received, and particularly a long entertained opinion, is capable of exerting, *even on the best disposed minds*, than in things which come under the sphere of obstetric examination. One examines and finds what one is already sure of finding: *it is like looking through coloured glass.*"—*Rigby's Translation of Naegelé on the Mechanism of Parturition.*

I am desirous of again calling the attention of the profession to the consideration of "Floodings after Delivery," in order that I may have an opportunity of supplying certain omissions made by me in my former paper, published in No. 926 of the Medical Gazette, and with the hopes of being now able to adduce some valuable matter, which I was not then possessed of, in confirmation of the doctrines therein advanced by me. The narrow limits to which I was necessarily restricted on that occasion will sufficiently account for some obscurities and defects which may be detected in my former exposition of the subject; and its importance, I doubt not, will be held to be a sufficient apology for my attempting the further elucidation of it; for it will not be denied that "the vexed question" regarding the nature and treatment of floodings, is one of the highest interest, not only to the profession but to society, seeing that until it be satisfactorily settled whether the species of hæmorrhage be of an active or of a passive character, and consequently whether it ought to be treated on the tranquillizing or the stimulant plan, no accoucheur can be confident that he is prepared to perform the duties of his art aright, in an emergency of no very uncommon occurrence; and no female, if aware of the differences of opinion which prevails among professional men respecting the treatment of this vital point of practice, can feel secure that she is trusting herself to safe hands. I am aware, indeed, it may be said that, as all the first authorities of the age have been agreed for some years past as to the proper line of conduct to be pursued in this case, the dissent of a solitary individual does not constitute any distraction worth noticing in the professional councils. But the odds against the individual who has ventured with much diffidence to question established opinions on the present occasion, are not so great as at first sight they might

appear to be; since, as far at least as the disputed point of practice is concerned, all the best authorities of former times, including those of the age always looked back to with particular pride and admiration by British accoucheurs—namely, that of Smellie and his contemporaries—are upon his side; and one of the objects which he has in view in resuming the subject, is to shew that the same plan of treatment, although abandoned for some time past in the higher walks of the profession, still continues to be pursued in the district of the country where he resides, by a certain class of practitioners, with the uniform success which is said to have attended it in the hands of the older authorities.

But before proceeding to the new exposition of the doctrines which I hold on this subject, I must briefly notice the critical remarks on my former brochure, which appeared from the pen of Dr. Ramsbotham, in the MEDICAL GAZETTE of October 24th. Coming from such a high quarter, I readily admit that they are entitled to every consideration; but at the same time I must beg to say that I do not think myself called upon to make any formal reply to them, as I could not do so without occupying the pages of a public journal with matters of a somewhat personal nature, and without involving myself and a gentleman for whom I entertain much respect, in a controversial discussion, equally at variance, I have reason to believe, with the tastes of both parties, and from which I do not see that any good result could ensue to the cause of scientific truth. The readers of the GAZETTE have now got my first statement of my case, and Dr. Ramsbotham's counter-statement, and I willingly leave to them the task, if they shall think fit, of collating the facts and arguments advanced on either side, and judging for themselves. I flatter myself, also, that the fuller exposition of my opinions, now about to be given, will be found to obviate some of the objections stated to them by my much-respected opponent. But although I do not mean to enter further upon the consideration of Dr. R.'s letter, I must not omit noticing one mistake which he has inadvertently committed, as to the meaning of a passage in my former paper, because it must lead those who take it up in the same light to a complete misunderstanding of the whole drift of my argument. Dr. R., after quoting the concluding paragraph of my paper, namely, "that the flooding which follows delivery has none of the characters of a passive hæmorrhage, but is to be referred to the class of active hæmorrhages, and treated accordingly," adds immediately afterwards,—"He remarks, indeed, that 'this is fortunately not of much practical importance, as the indications of the treatment will be much the same.'" Now it is to be observed, that the latter quotation from my paper is to be found at p. 765, where I am treating not of the distinction between active and passive hæmorrhages, but of the difference between hæmorrhages from exhalation and those from the rupture of vessels; and where I conclude with the remark, "fortunately it is not a question of much practical importance, as, on either supposition, flooding must be referred to the class of active hæmorrhages, and not to passive, as it has hitherto generally been, and the indications of treatment will be much the same."

I need scarcely add, that the truth of this remark will hardly be questioned, since it applies to all other active hæmorrhages as well as to floodings. Thus in epistaxis, it may be often a matter of no great importance, as regards the stopping of the bleeding, whether it be referred to the rupture of small vessels from violence, or to an increased action of the exhalant vessels, as nearly the same treatment is applicable in both cases.

I shall arrange the remarks which I have now to make under two heads; the first having for its object to determine the cause, and the second the treatment of floodings.

*On the cause of floodings.*—Violent discharges of blood take place, sometimes immediately after delivery, sometimes not until a few hours after, and sometimes after the lape of several days. The two last cases are of comparatively rare occurrence, but the first is one of the most frequent casualties of parturition, and it is to this species that the present inquiry is more particularly directed. I am inclined to think it will be generally conceded that the question now to be solved may be fairly stated in the following terms:—"It being agreed that after delivery of the child and placenta, with contraction of the womb, an abnormal discharge of blood sometimes takes place soon afterwards, accompanied by general faintness and relaxation of the uterus, to determine whether the hæmorrhage be the cause of the relaxation or the relaxation of the hæmorrhage." In other words, "is the relaxation the cause or the consequence of the flow of blood?" What renders the present inquiry the more difficult, is the circumstance that the womb is so situated that it is impossible to decide by actual observation which of the two symptoms mentioned above precedes the other, and therefore other considerations must be called in to enable us to solve the question. We shall first examine the hypothesis which accounts for the hæmorrhage, upon the supposition that it is occasioned by relaxation of the womb. As stated in my former paper, this hypothesis was first started at a time when it was

generally believed that vessels "of the size of crow-quills" pass from the uterus into the placenta, and that these are forcibly torn across when the separation of the placenta takes place*. Now had this been actually the state of matters between the mother and the fœtus *in utero*, it must be admitted that the hypothesis would stand upon a somewhat probable foundation. But although there be still certain disputed points regarding the construction of the placenta, it is now conceded on all hands as being most satisfactorily determined that, at all events, no maternal vessels capable of conveying blood are ruptured at the separation of the placenta†.

The original ground, then, upon which the hypothesis is founded, has confessedly given way under the feet of those who upheld it, but rather than abandon a cherished opinion they have shuffled their ground, and now maintain that blood rushes from the uterine vessels, because their extremities, formerly blocked up by the placenta, are rendered patulous by its separation, unless when active contraction takes place, and shuts them up. But if the fibres of the uterus be in a state of relaxation, will not its vascular system be in the same condition? and is it not contrary to general experience that excitant vessels, so circumstanced, should be disposed to pour out their contents? Can a single instance be quoted of hæmorrhage from any other part proceeding from relaxation when the blood is not deficient in fibrine? and in the present case, instead of being deficient in fibrine, all admit that it has more than its normal proportion of this constituent.* It is undeniable, then, that the assumed ground of the hypothesis in question is not applicable to the explanation of any other hæmorrhage whatever. Such an hypothesis, therefore, being formed for a solitary instance, and utterly inapplicable to all other cases of a similar nature; that is to say, to all other hæmorrhages whatever, and as will be presently shown, to all floodings in other animals, must, upon every legitimate rule of philosophizing, be rejected as a mere chimera and fiction of the fancy.† But what deprives the hypothesis of every imaginable ground for being admitted as a probable supposition to account for the phenemena of flooding, is, the fact, which I still maintain has been proved, from undoubted observation, that non-contraction of the uterus is often not accompanied with hæmorrhage; and, on the other hand, that hæmorrhage often attends violent contractions of the uterus. Indeed, it was from frequently meeting with cases of this description in my own practice, that I was first led to question the truth of established opinions on this subject, and I cannot but persuade myself that similar instances must have been remarked by every practitioner of much experience, provided his mind be not in the condition described by Naegelé, in the motto prefixed to this paper, and he has not been looking at the phenomena of flooding as it were through "coloured glass." In addition to the examples and statements formerly brought forward by me to prove the position, that flooding is not the necessary and unavoidable consequence of non-contraction of the uterus, I am glad to be now able to give the testimony of a professional gentleman, whom I have long known to be possessed of a very accurate and original talent for observation. Dr. James Arnott, in the "Appendix to his Essay on Therapeutical Inquiry," published very lately, makes the following remark: "The hæmorrhage after delivery, though generally attributed to atony of the muscular tissue of the womb,

* Dr. Hamilton says, "overwhelming hæmorrhagy would follow the separation of the secundines, but for the contraction of the womb. The effect of this contraction is such a thickening of its substance as not only to compress the trunks of the vessels which had run into the secundines, but also to occasion the retraction and constriction of their ruptured extremities; the natural structure of which is well adapted for this purpose."—*Practical Observ.* p. ii.

† At the time when I wrote the last paragraph, I took it for granted, that after the late microscopical labours of Professors Weber and Sharpey, and still more recently those of Messrs. Dalrymple and Goodsir, on the Construction of the Placenta, no person ventured to maintain the old doctrine of a vascular connection between it and the uterus. Bot in this I was much mistaken, for Mr. Copeman, in a critique on my paper on Floodings, in No. 936 of the MED. GAZ., declares that "he has hitherto held it as an established fact, that blood is poured into the placenta by arteries from the uterus, the spiral or curling arteries of Hunter;" and that he had actually "seen these arteries lately, in a recently expelled placenta." What vessels he could have seen on the surface of the placenta, I am at a loss to conceive; probably the decidual threads of Mr. Goodsir, but these are very minute capillaries, incapable of conveying blood; so that I cannot conceive how there can be supposed to be any circulation going on in the placenta through them. Indeed, what is now called the maternal portion of the placenta consists of a mere film, named the external membrane of the villus, which Mr. Goodsir describes as being "a very fine transparent membrane, apparently devoid of all structure," and of those microscopical objects, called "nucleated cells:" that the blood is conveyed to the placenta by means of this *basement* membrane and the nucleated cells, and not by continuity or contiguity of vessels, as Mr. Copeman supposes, is now, I should think, a settled point in anatomy.

* See Simon's Chemistry, p. 337 and 319.

† I think it right to state that the mode of reasoning here adopted is derived from Kant's Logic, Introduct. x. Having made this acknowledgment, I trust I may now be allowed to say without the imputation of conceit, that it proves diametrically the illegitimacy of the hypothesis in question. The profession, I am well aware, is justly suspicious of abstract reasoning as a guide in practical matters; I wish I could say that it is equally distrustful of assumed hypotheses as the basis of practice.

may perhaps occasionally arise from irritation affecting its blood-vessels. I have met with instances (and one only two days ago) where, on extracting the placenta, hæmorrhage has ceased, notwithstanding the failure of the means employed to produce contraction of the womb." To the examples formerly given of floodings, attended with contractions, I would add the fatal case of this nature, related by Dr. Merriman.* Altogether, then, I cannot conceive how it can any longer be disputed that uterine *inertia* is an hypothesis not only inadequate to explain the phenomena of floodings, but wholly at variance with the facts of the case. On the other hand, no one will deny that relaxation and loss of tone are the most common consequences of hæmorrhage, from whatever part of the body it may come, and that therefore, *prima facie*, this mode of accounting for the phenomena is more plausible than the other. It has also this advantage, that, according to the theory now advanced, the origin of the hæmorrhage can be explained without the relaxation of the uterus, whereas I do not see that the relaxation of the uterus can be accounted for without the supposition of a preceding hæmorrhage. I have often put this question to the advocates of the established hypothesis, "If this relaxation of the womb be the cause of the flooding, what is the cause of the relaxation?" but have never hitherto received any satisfactory answer. But if the question be put conversely, and I be asked, "What is the cause of the hæmorrhage?" my answer is obvious, namely, the same causes which gave rise to a flow of blood in other instances, of which by far the most common is the rupture of blood-vessels, proceeding, in this instance, from injuries sustained by the soft parts during the act of delivery. I think it almost superfluous to accumulate further evidence in proof of the fact, that lacerations of the os tincæ, the vagina, and perineum, are among the most common casualties which complicate delivery. They are mentioned cursorily by Boivin, Naegelé, Ramsbotham, Rigby, and every good authority on midwifery. Since I turned my attention more particularly to the subject, the number of instances in which I have detected recent injuries and old cicatrices about the mouth of the womb and the os externum is very great. Indeed, there can be no question but that lacerations are of much more frequent occurrence than hæmorrhages, the reason of which is obvious, namely, that a considerable discharge of blood attends them only when a considerable vessel happens to be torn across, or when the small vessels are in a state of unusual activity. In my former paper I have related a case, in which I actually detected a vessel of some size pouring forth blood in a small laceration of the perinæum. That the flooding in this instance proceeded from the wound in the soft parts no one who had witnessed the circumstances attending it could have doubted, and the symptoms which lately accompanied the second accouchement of the same woman, although slightly different, completely confirm this view of the case. The waters came off early on the morning of the 29th of September, but labour did not set in until 1 o'clock next morning; the os uteri took two hours to dilate, but the subsequent delivery was violent and rapid. As the head pushed out the perinæum the hard cicatrix of the former rent could be distinctly recognised; the head cleared the os externum without doing any injury to the parts, but as the shoulders were coming through I could distinctly feel with my hand the cicatrix snap; but, I then thought, to so small an extent, that I scarcely anticipated any considerable bleeding from it. The placenta immediately followed the birth of the child, and little more than the usual quantity of blood came off with it. I had then turned round to give directions about the management of the child, and was thus occupied for the space of perhaps six or seven minutes, when my attention was again attracted to the woman by hearing her give utterance to a cry expressive of a severe after-pain, and upon examination I found that a discharge of blood had taken place to the extent, I suppose, of about a pound. I treated her on my usual plan, and although in making the local applications I did not detect any single vessel pouring forth blood *per saltum* as on the former occasion, the flow of blood had all the characters of a hæmorrhage from a recent wound; in fact, the blood spouted out, as it frequently does, from the incision made in the operation of lithotomy. The bleeding gradually subsided, but nearly an hour elapsed before it stopped completely. She became faint, her cheeks were blanched, her pulse feeble and soft, and coagula formed in the vagina and womb, some of which I attempted to bring off with my finger and thumb, but found that so much pain was thereby produced that I desisted. I understood afterwards that she got clear of them a short time after I left her during the act of vomiting, brought on by swallowing a cup of tea. The laceration took about a fortnight to heal up. Although in this instance there cannot be the slightest doubt in my mind that the blood flowed from the torn vessels of the perinæum, an accoucheur, having his mind warped with the hypothesis of uterine torpor, would have readily accounted to himself for all the phenomena upon this supposition, and treated the case accordingly. What would have been the

* Append. 265.

consequence of introducing the "clenched hand" into the uterus, when the partial introduction of the thumb and one finger into the vagina occasioned so much pain, I leave it to the reader to conjecture. To say the least of it, the case would have proved "a serious one," whereas, treated as it was, it passed over as a common occurrence.

I very lately attended a woman of small stature and slender make who was delivered of a very large still-born child, weighing ten stone, after a violent labour of twenty-six hours. The placenta immediately followed, and my attention having been turned to the child for a few minutes, I found the mother, upon again looking after her condition, swimming in blood; but by exposing the parts to cool air, making cold applications, laying the head low, and giving an opiate, the hæmorrhage was soon stopped. As all the parts were much swollen, and the child was squeezed out with the most extraordinary efforts, it was impossible to doubt that some laceration had occurred to occasion the hæmorrhage; at all events it did not proceed from flaccidity of the womb, for I soon satisfied myself of the fact that the organ felt, as usual, like a hard ball above the pubes. Indeed, I am confident that it is only when the woman becomes faint, or the blood not getting a ready outlet, runs up to the uterus, and becomes coagulated there, that the organ feels soft to the touch. In this instance the woman did not fall into a state of lipothymia. And here I would beg leave to remark, that it appears to me most unaccountable that the flooding which often follows instrumental delivery should have been referred to atony of the womb, when it is so much more naturally to be accounted for by referring it to the injury inflicted on the soft parts during the process of forcibly dragging the child through them.

In a case related in one of the medical journals a good many years ago, the accoucheur states, that in delivering a woman with the forceps, "during the last forty minutes *he exerted all the power he was capable of*, for he found that he made little or no progress by using moderate exertion." He succeeded at length in dragging forth the child, and a dreadful hæmorrhage ensued, which still he attributed not to any violence sustained by the soft parts during extraction of the child, but to "torpor of the uterus." If a surgeon, in extracting a calculus from the bladder with his forceps, were "to exert all the power he was capable of," and if, after accomplishing his purpose, a violent hæmorrhage should ensue, he would hardly attempt to maintain that the flow of blood proceeded not from any injury done to the soft parts in extracting the stone, but from torpor of the bladder. The reason of this difference of judgment is obvious; surgeons view the facts and circumstances connected with hæmorrhage from the bladder as they really occur, and account for it accordingly, whereas accoucheurs look at the phenomena of hæmorrhage from the womb under the tinge of false hypotheses, as it were "through coloured glass*."

And now I trust "my own order" in the profession will not be offended, if I venture to declare it as my opinion, that the veterinary surgeons entertain much more correct and scientific ideas on this subject than those the medical profession has entertained during the greater part of the present century. But before proceeding to state their views with regard to blooding after delivery in cattle, I think it necessary briefly to advert to certain circumstances calculated to shew that a closer analogy than might at first be believed subsists between the genus *Homo* and the genus *Bos*, with regard to their physical condition. Both of them it will at once be admitted are in a highly artificial condition, and far removed from their original state. Between the civilized man of society, and the wild savage in a state of nature, there is scarcely a greater difference than there is between the pampered ox of the stall and his prototype the *auroch* of Lithuania. With regard to many physiological and pathological circumstances, there is also a striking analogy. The term of gestation in both is of the same length; and the similarity of the mode of connection between the mother and its offspring in the womb is so striking as to be particularly adverted to by two of the best authorities on physiology, namely, De Graaf and J. Goodsir†. The various phenomena of partu-

* Not only laceration of the perinæum and vagina but also rupture of the uterus have been occasioned by instruments. It is well known that Chamberlain produced this accident in the case of one of Mauriceau's patients, whom he undertook to deliver with the forceps. Other instances of this accident are related (See Brit. and For. Rev. No. 20. Art 10). I have been consulted several times in cases where the passage to the uterus was completely shut up by the healing of extensive lacerations of the vagina, produced by instruments in delivery. No one, in short, need be puzzled to find out the cause of any flooding which follows instrumental delivery.

† The opinion of De Graaf is given in my former paper. J. Goodsir, in giving an explanation of his diagram of the fœtal and maternal portions of a placental villus, has the following remarks:—"This maternal portion of the villus and its cavity correspond to the glandular cotyledons of the ruminants, and the matter thrown into the cavity, to the milky secretions of these organs (Anatom. and Phys. Obs. p. 114). By the way, if Mr. Copeman will examine the figures here referred to, he will be satisfied at a glance that he must be in some mistake respecting the contraction of the placenta, as far at least as regards the the termination of the curling arteries in it. I would further remark, with regard to this figure, that it must be obvious from it that the maternal and fœtal membranes of the placenta are sometimes so separated that the former

rition are also wonderfully alike: both have natural and preternatural deliveries, cross-births, umbilical presentations, with all the accidental complications, such as rupture of the uterus, inversion of the uterus, retention of the placenta, puerperal fevers, and so forth. And now it will be asked, what are the phenomena and circumstancse connected with "floodings after delivery" in cattle? To this question I reply by quoting the account of this subject given by a writer who I understand is looked up to as one of the highest authorities on veterinary medicine.

"*Bleeding (flooding) from the womb.*—This, though rarely, may follow natural parturition. *It is oftener seen when the uterus has been wounded in the forcible extraction of the calf, and still more frequently follows the long-retention and mechanical separation of the after-birth.* The application of cold to the loins will be most serviceable in this case. . . . . The cow may drink cold water; . . . . . and large doses of opium should be administered. The hinder parts of the cow should be elevated. She should be kept perfectly quiet, and the calf not permitted to suck. There are few hæmorrhages from the womb, *except those produced by absolute rupture of it*, which will not yield to this treatment." From the work, "CATTLE, &c." by W. Youatt, published under the superintendence of the Society for the Diffusion of Useful Knowledge. London, 1834.

To this clear, sensible, and scientific exposition of the subject, I shall only add that the principal facts stated in it have been confirmed to me by an intelligent practitioner of the art, who has resided in this place for about twenty years. He assures me that, except when the cow had been torn in rude attempts to extract the calf, he had never seen any flooding worth mentioning.

Now these, I confidently maintain, are "great facts" in illustration of the nature of floodings, and facts well deserving the attentive consideration of my profession. To me, when taken in conjunction with the facts and observations which I had formerly brought to bear upon this subject, they appear perfectly conclusive that the floodings which occur after delivery are almost invariably to be referred to violence sustained by the mother in the act of delivery. But if any person shall still be so inconsistent as to hold that, although laceration of the soft parts in extracting their young, and the rough introductiou of the hand in retention of the after-birth, may be capable of producing serious discharges of blood in cattle, the same consequences do not follow from the same causes in women, but that in them the hæmorrhage invariably arises from a cause which never operates in any other *mammals*, namely—"torpor of the womb"—I must leave such a one to his own visionary suppositions, and despair of making him see things as they actually exist.

But I must not quit this part of the subject without briefly noticing the two rarer species of flooding adverted to above, namely, that which sometimes occurs a few hours after delivery, and that which occasionally takes place several days after. The former of these I have always looked upon as being analogous to the primary hæmorrhage, and the latter to the secondary hæmorrhage, which sometimes follow surgical operations. The former class of hæmorrhages is no doubt connected with increased vascular action succeeding to the depression produced by the shock of the delivery, or of the operation *. The following is a very striking case of this class of floodings:—"A woman, after having been in labour for thirty-four hours, and the liquor amnii discharged for thirty, was then, on account of narrowness of the pelvis and the absence of pains, delivered with the forceps of a healthy living girl, her first child. The separation of the placenta soon followed; not a particle was left behind, and *the uterus contracted regularly*. A very moderate quantity of blood had been lost during and immediately after delivery. Two hours after I was hastily summoned, and found the woman in a fainting state, the countenance collapsed, and of death-like paleness; the pulse scarcely perceptible; the hands and feet cold; the voice almost gone. On examination I found that the uterus was relaxed (!!) and that the woman, so to speak, floated in blood †." Compare this case of delivery with the following case of surgical operation which occurred in my own practice about four years ago:—

I extracted a large encysted tumor from the left labium pudendi of a woman, with the assistance of my friend, Dr. Kerr, of Aberdeen. Two arteries were secured, and a very moderate quantity of blood was lost

must be left behind, and becomes deciduous like the glandulæ of the ruminants.

* It is deserving of remark in this place, that the pressure of a tight bandage is stated by the surgical authorities as a common cause of the primary hæmorrhage after amputation (see Cooper's Surg. Dict. art. Amputation). Now, Mauriceau, in like manner mentions, that straitness of the bandage may increase the tendency to flooding. This appears to me to have been the cause of the flooding in the case related by Mr. Copeman, Med. Gaz. 1222. I am surprised that some good authorities should put great reliance on a tight bandage for stopping flooding. To say the least of it, it is *petit moyen contre une grande cause.* A moderately tight roller, indeed, gives a woman an agreeable feeling of support after any delivery, but that a very tight one should stop flooding I cannot conceive.

† By De Ehrenbrich. Given in the Brit. and For. Med. Review, No. 29, from Medicinische Zeitung, No. 37.

during and after the operation. When we left her all seemed to be right; but two or three hours afterwards I was hastily summoned to see her on account of a bleeding which had suddenly occurred; but, unfortunately I was so circumstanced that I could not get to her immediately: I therefore directed the messenger to remove the dressings, expose the parts, and apply cold water to the wound. When I reached the spot I found the hemorrhage effectually stopped. Now what unprejudiced person can doubt that the hemorrhage in both those cases arose from the same cause, namely, the reaction of the wounded vessels after a preceding depression? And yet the reporter of the former case attributes the hæmorrhage to relaxation of the womb, as if such a discharge of blood could have taken place without producing relaxation of the whole body, and prides himself in having stopped the flow of blood by introducing his hand into the uterus and compressing the aorta, and afterwards, "when his hand and arm were completely disabled," by laying a heavy sand-bag upon the abdomen. Mark the success of this plan of treatment:—"six weeks after, the patient was perfectly well, *with the exception of weakness.*" Had he been content to treat his patient by exposure to the cold air, by making cold application to the pelvic region, along, perhaps, with throwing up a solution of sulphate of zinc into the vagina and uterus,* in all probability she would have been better than he describes her to be "in six days," and certainly would have escaped much suffering and great risks to which she was exposed.

In the course of my practice I have met with only four cases of dangerous hæmorrhage occurring several days after delivery. I attributed the flow of blood in all these cases to sloughing. In two of them, this was evidently the cause, being produced by retention of part of the placenta in the one, and the whole of it in the other, after premature delivery.† The secondary hemorrhage, after surgical operations, I need scarcely to remark is, in like manner, generally to be referred to sloughing; and, by the way, I may mention in this place, that I once met with a case of severe flooding immediately after delivery, which I supposed to be owing to sloughing. The labour in this instance was very protracted, and for some time before and after delivery the smell and appearance of the discharges indicated putridity. The child had a dark green colour, and only lived about 12 hours. In a case of flooding after instrumental delivery, published lately in the *Lancet*, by Dr. Davis, I am inclined to think that the hemorrhage must have proceeded from sloughing. (See Guthrie on Gun-shot Wounds, p. 105, 106.)

Having now, I trust, satisfactorily settled the question as to the cause of flooding, and shown the identity of the phenomena attending it with those of hemorrhage from wounded vessels in other parts of the body, I now proceed to the consideration of the other object which I proposed to myself in resuming this discussion, namely,—

*The Treatment of Flooding.* It cannot but appear remarkable that, notwithstanding the difference of opinion which prevails as to the nature of the hemorrhage in question, all parties are agreed with regard to several of the leading points of practice. All approve, for example, of "exposure to cold air, cold applications to the parts, the removal of all excitement both of body and mind, laying the head lower than the pelvis," and the administration of opium:—and here, in the first place, I would remark, that it is most unaccountable that those who refer the hemorrhage to torpor, either local or general, should admit the above-mentioned as being the proper indications of treatment. Surely, agreeably to the rule of practice adopted by all but Homœopathists, *contraria contrariis*, if torpor, inertia, or atony, be the cause of the mischief, instead of having recourse to the soothing and tranquillizing plan of treatment at first, we ought to endeavour to excite and rouse by all means in our power, and that too at the earliest possible stage. When we wish to rouse the uterus, in time of labour, to more activity, we cautiously move the woman about, give her warm draughts, and try to exhilarate her. If contraction be what is wanted in flooding, why not have recourse to these means? But of all the points of practice above indicated, the administration of opium to remove torpor seems to me the most remarkable. If opium can stop the action of the expellent powers when given before the operation of turning, and if it "can rouse them to brisker action" in uterine hæmorrhage, it must be admitted that it is a most wonderful medicine! In torpor of the brain, of the stomach, or of any other organ of the body, opiates are the

* I have often wondered that cold injections into the uterus have been so seldom practised in floodings, notwithstanding their being favourably mentioned by good authorities, as for example, Drs. Young and Rigby.—*System of Midwifery*, p. 217. To the introduction of snow or ice I object, as likely to defeat the object in view by producing pain and giving rise to a dangerous reaction. I am satisfied that to stop bleeding we ought to cool but not to congeal the parts. This principle, however, is often not attended to.

† A case of flooding from sloughing of the os tincæ, which proved fatal on the 5th day after delivery, is reported by Professor Davis in his work on *Obstetric Medicine*. It is referred to by Dr. Hall Davis, in the *Lancet*, Nov. 8, 1845, p. 500. The injury of the os tincæ was occasioned by the long-continued pressure required for the introduction of the hand in a case of placenta prævia. Dr. Collins relates a case of fatal hemorrhage which took place on the 5th day, in which a piece of the uterus of about the size of a shilling had given way.

last medicines which one would think of using. Some of my professional antagonists have told me that opium promotes the tonic contractions of the uterus, while it stops the expulsive, but such hair-splitting distinctions and fine-spun hypotheses are above my comprehension. Others have maintained to me that opium is a stimulant, thus endeavouring to revive one of the absurd vagaries of the Brunonian system, which I thought had been long ago exploded. For my own part, discarding all these dangerous *conçette*, whether of our countryman or of his Italian imitators, I have long been convinced, by the repeated experiments of Alston and Whytt, that opium, either directly or indirectly, acts by retarding the action of the heart;* and holding, as I do, that in floodings the arterial system, at least in one part, is in a state of undue excitement, I consider that opium is indicated to counteract this condition of the vessels. If there be any foundation, then, for these remarks, as to the action of opium, the admitted efficacy of it in floodings is utterly subversive of the hypothesis which refers them to *inertia* of the womb.

But the main point of practice upon which a difference of opinion prevails between the advocates of the mild and of the stimulant system of treatment, is the introduction of the hand into the cavity of the uterus in order to rouse it to brisker action. This practice, which, as formerly stated by me, was introduced between 30 and 40 years ago, I hold, in opposition, I regret to say, to authorities for whom I entertain the highest respect, to be a most dangerous innovation upon the simple and efficacious plan of treatment laid down by our forefathers in the profession. It has been said, indeed, that I have exaggerated the dangers of this practice; but this I can confidently affirm, that my information has been derived from women who had endured the ordeal, and from well-authenticated cases which had been treated by other professional men, but from which (for reasons which will be easily understood), I conisder myself debarred from quoting my authorities. One woman told me, not long ago, that when she felt the surgeon's hand in her inside the pain was so excruciating that she fainted away, and that she was afterwards informed that she lay in a state of insensibility for the space of three or four hours. She said that she thought nothing of the pains of labour in comparison with what she endured during the flooding. This, in so far, agrees with the account given by La Motte of a case which occurred in the practice of "un chirurgien peu expert." This person rudely introduced the hand after delivery, and tore away the placenta—"malgré les cris desesperez de l'accouchée;" and well pleased with what he had done, then asked the poor woman whether, notwithstanding all the ado she had made, she had suffered more from what he had done to her than during her labour—"à quoi elle repondit faiblement en repetant 'cens fois, cens fois davantage,' et expira!" In short, there can be no doubt, from the very nature of the operation, that it is a most cruel and dangerous practice, in the highly excitable and painful state in which the woman is when it is applied. And yet the introduction of the hand has been had recourse to in floodings for three different purposes:—

The first is to remove the placenta if not yet expelled, or a mass of coagula which may have collected in the cavity of the womb. This is an object which has long been acknowledged as a legitimate one to warrant the practice in certain cases, and the only question is, what these cases are. Both the bold and the timid application of this practice is sanctioned by high authority; Mauriceau recommends it as a general rule to clear out the coagula with the hand, while Denman represents the practice as being seldom necessary. I must own that in this instance I have of late years inclined to the opinion of Denman. I have met with several cases in which soon after delivery the abdomen was found to be as much distended as before it; and yet by letting the woman alone, or giving her some palliatives, the swelling has subsided without occasioning any trouble. But when a large coagulum can be detected in the vagina or os uteri, occasioning severe pains and hæmorrhage, it certainly ought to be cleared out with the hand, but this ought to be done as gently and expeditiously as possible. At all events no portion of the placenta ought on any account to be allowed to remain long in the uterus or vagina. Another object for which the introduction of the hand has been supposed to be indicated in floodings is to stimulate the uterus to contraction.*

* *Medical Essays and Observations.*—Slowness, I need scarcely say, is the common character of the pulse in poisoning by opium. When frequency occurs in such a case it is to be referred to re-action or expiring struggles of the system.

* That there may be no mistake about the operation I allude to, I again subjoin the late Dr. Hamilton's graphic description of it. "He guards against it (flooding) by introducing his right hand (immediately after all the uterine contents are expelled), and by applying his left hand to the surface of the abdomen, *he compresses strongly the uterus between the two hands.* In a short time he finds the os uteri begin to contract, and he does not withdraw his right hand until he has literally *by pressure,* brought the parietes of the cervix and the os uteri into contact," p. 259. It is to be regretted that he does not say how he proceeded in cases in which instead "of finding the os uteri begin to contract," his patient instantly fell into a state of complete insensibility, or was convulsed

This practice, it will at once be seen, is founded entirely on the hypothesis that uterine *inertia* is the cause of the hæmorrhage; and it must be admitted that the ground upon which it was applied is no longer defensible, if we have now succeeded in showing that the flow of blood is to be referred to a totally different source. But even if the hypothesis were well founded, the practice seems not well calculated to fulfil the object required; for as the pain occasioned by the introduction of the hand frequently brings on insensibility and syncope, these are not likely means of procuring uterine contraction. It has of late been kept in reserve as a *remedium ultimum*, to be had recourse to only after all other means had failed. But if the flooding proceeds from torpor of the uterus, and is only to be stopped by the removal of the cause, surely the sooner that the supposed remedy for this state is applied the better, and the longer it is deferred the greater will be the danger attending the application of it at last. When the flame of life as it were is flickering in the socket, any violent concussion of the vessel may occasion at once its total extinction. A third object for which the hand is introduced in floodings is to make it serve as the pad of a tourniquet to compress the vessels which are pouring forth the blood.† But with an uterus distended perhaps above the umbilicus, who shall direct us where to find the bleeding points? And if "the clenched hand" should not completely cover the fatal spot, will not the irritation it produces increase the flow of blood and the dangers of the case a hundred fold? And, then, one cannot think without horror of the sufferings of the wretched woman forced perhaps for upwards of an hour to endure the pressure of the fist on her entrails within, and the counter-pressure of the other on the outside. And is there not some danger that the pressure of the hard hand may burst the tender walls of some of the uterine sinuses, and thereby occasion a fatal flow of blood? If the irritation produced by a coagulum or piece of the placenta laying in the uterus keep up a discharge, will not the presence of the rough hand occasion this much more? And is there not a considerable risk that the hand in the uterus may compress the iliac vein, and thereby occasion increased congestion of the uterine vessels? In short, it is a practice so fraught with danger, and so repugnant to the humane spirit of the present age, that I cannot but perceive myself that it must soon be abandoned, provided it can be made to appear that the mild plan of treatment formerly described by me can be had recourse to without any risk of sacrifice of life. This is what I now purpose to shew.

In my former paper I particularly directed attention to the remarkable success which attended the whole method of treatment in the hands of the illustrious Smellie, who in the course of 40 years, during the greater part of which time he practised in London with unrivalled applause, never lost but one patient from flooding after delivery, and that one from no fault of his, but from the mismanagement of the nurse in attendance. I may here add, that although Mauriceau, La Motte, Levret, Chapman, and Denman, have not left us the same positive information with regard to the success of their practice, it can hardly admit of a doubt from their writings that these eminent accoucheurs rarely, or never, lost a patient from flooding after delivery. At the same time I also adverted to the favourable results of this method of treatment as still pursued by the midwives in the rural districts of Scotland; but the terms in which I made this statement were perhaps too vague to warrant any positive inference from it. I have since been at some pains to inquire more particularly about the results of these women's practice, as tending in a very remarkable manner to confirm those obtained by the experience of the older authorities, and I shall now mention a few particulars which will enable the reader to judge what importance is due to my present narrative. I have to say on the outset with regard to these women, that they all practised their art within this and the surrounding districts of the country; that I have often met with them all in the way of my profession, and that I believe every credit is due to the accounts which they gave me of their experience. 1. Mrs. Mollison practised midwifery for about forty years. A short time before her death, which happened in 1823, I attended a case of preternatural labour along with her, and I distinctly remember

with agony and required several assistants to hold her. I have certainly heard of such cases. Considering Dr. H.'s fondness for the operation, I cannot but think that he must have met with such.

† The following description of this operation is from a case related by an eminent authority on Midwifery. "An experienced practitioner grasped the uterus through the abdominal parietes while I continued to make counter-pressure internally with my clenched hand, and, at a few minutes after 4 o'clock, I was enabled to withdraw my hand from the uterine cavity, where it had been for a full hour." The state of the patient during this process may easily be gathered from what is stated: "the pulse at last left the wrist entirely for about 20 minutes; there was universal coldness, and the patient lay quite insensible, at first gazing wildly around her, but ultimately seemed as if asleep, with her eyes half open and contracted, and breathing under great restraint." It is right to add that she ultimately recovered, although she laboured under a considerable degree of aberration for nine hours, and it was not until about sixteen hours that her voice was at all audible at any distance from the bedside.

that having put the question to her whether she had ever lost a woman by flooding, she assured me she never had. 2. Mrs. Begg practised altogether about 37 years, and died 12 years ago. Her daughters lately showed me a note-book, which she had kept of her practice for a good number of years, and from it and their information, confirmed as it has been to me by other women who were intimately acquainted with her, I am quite confident that she never met with a fatal case of flooding after delivery. 3. Mrs. Anderson practised eight years in Aberdeen, and has since resided 35 years in this place, during the greater part of which time she was in full employment, until of late, when she has become an invalid from age. She assures me that she never met with a fatal case of flooding, and that she does not recollect having ever had occasion to call in a surgeon to assist her in any such emergency. 4. and 5. Mrs. Carnie, and her daughter Mrs. Gibbon, have practised altogether 43 years, at one time very extensively. Neither of them ever met with a fatal case of flooding after delivery, with the exception of the one related in my former paper, (pp. 762, 763), and in that as a surgeon was called in and treated it on the new method, neither the midwife nor her system is accountable for the result. 6. Mrs. Cooke exercised her art in this district for about 35 years; is now superannuated. The following are the only untoward cases of uterine hæmorrhage which occurred to her; a woman was delivered of a still-born child in the seventh month, and although warned by her of the danger that might result from the placenta not coming away, she neglected to call in surgical assistance until the eighth day after, when I found her moribund from putrid fever and excessive flooding. In another instance, a piece of the placenta having been left in the vagina, produced a very alarming flooding about ten days after. She is quite decided that she never met with a fatal case immediately after delivery.—7. Mrs. Pearson has been in active employment for the last 27 years; she never lost a woman by flooding after delivery, but attended a fatal case of placenta prævia about 10 years ago, along with a surgeon; in that case the woman flooded for about a fortnight, and died undelivered, with the placenta laying in the vagina.* She met with a case some years ago of what appeared to me to be rupture of the uterus, but it was not attended with external hæmorrhage. She does not remember having had occasion to call in a surgeon to her assistance in floodings, and but seldom in retention of the placenta. 8. Mrs. B. Milne was in good practice for about nine years. Having been often called in by her in difficult cases and having attended her during her last illness, I am well acquainted with the circumstances of her practice, and am confident that she could never have met with a fatal case of flooding without my hearing of it. 9. Mrs. Anderson has been 33 years in practice. She informs me that she never lost a woman from flooding, and does not remember having ever called in a surgeon in such a case. 10. Mrs. Tood, who has been in practice for upwards of seven years, informs me that she has never met with a fatal case of flooding. Mrs. Scroggie has been in employment as a midwife for eight or nine years. She says no case of death from flooding has occurred in her practice.

With regard to their mode of practice, these women all gave me much the same account, namely, that they applied vinegar and water externally, and gave a moderate dose of laudanum. Not one of them said that she had ever introduced her hand into the womb itself for any purpose whatever; but a few of them said they had put their hand up into the vagina to extract the placenta when it was laying there. As to the probable amount of cases attended by these females I have no data for making any accurate calculation, but from the information which I received from them severally I am inclined to reckon it at upwards of 6000 cases.

Here, then, I cannot but persuade myself that every candid and intelligent member of my profession will admit that I have now produced another "great fact" to bear upon the question regarding the nature and treatment of floodings. It would appear that, agreeably to the results above stated, a single practitioner, for example, ought to be able to attend 300 cases of natural delivery every year for twenty years without losing one by flooding, or meeting with a case requiring any dangerous mode of treatment. How comes it, then, that male practitioners, especially at the outset, meet with so many difficult, not to say fatal, cases of this description? We seldom find that a newly-dubbed M.D., or a M.R.C.S., commences the practice of midwifery, but we are sure to hear that, in the course of the first year, he has met with several formidable cases of flooding, which he has treated *promptly* by

* Mr. Copeman is much mistaken in supposing that I almost deny the possible occurrence of placenta prævia. After what has been recently written on the subject, such scepticism would imply either great ignorance or great conceit. All I meant to say on this matter was, that I believe such cases to be of much rarer occurrence than is generally supposed. I still think that as sudden hæmorrhages from the uterus sometimes occur in the unimpregnated state, we are not warranted in referring all those which take place during pregnancy and labour to abnormal presentation of the placenta

the introduction of the hand. How comes it that illiterate females get on so quietly and safely in such an emergency, while the proud "sons of science" so frequently meet with difficulties obstructing their way; how does it happen that the female practitioner (at all events in this locality) seldom or never finds the uterus at fault after the expulsion of its burden; whereas the young geon is constantly finding a *casus belli* nst this organ, and attacking it with his ? clenched hand" in order to rouse it from ts inactivity?

This conduct, indeed, on the part of the junior practitioners, is after all not to be wondered at; for having been taught to look upon all floodings as arising from *inertia* of the womb, they naturally think that their first duty in such a case is to attack the cause of the evil. Indeed, it is in the practice of beginners in the art that the system of manual interference prevails to such a frightful extent; for I have reason to know that many of the older practitioners have been taught by experience the hazard attending this mode of treatment. In proof of this I would mention, that at the meeting where my first paper was read, a very experienced practitioner, and learned teacher of midwifery, did not hesitate to say that, while he did not venture to give any opinion with regard to my theoretical views, which were certainly novel to him, he did not hesitate to say that the practice was not very different from his own, since, to the best of his recollection, he had not introduced his hand twice into the uterus in cases of flooding during the last twelve years. Thus it is that, in a well-regulated mind, experience and reflection sometimes counteract the workings of an erroneous principle, without the person's being aware that he has changed his opinion. And it sometimes fortunately happens that men of excellent common sense, although wrong in theory, are right in practice. No one, however, can doubt the pernicious tendency of erroneous theory in medicine, as being often made the basis upon which are founded the rules of practice laid down by the teachers of the science for the guidance of their pupils. Believing, then, as I flatter myself I have now satisfactorily shewn, that the rules of treatment in floodings, being founded on an erroneous hypothesis, are of the most dangerous tendency, and are, in fact, rarely followed out now to the extent they would lead, even by those who teach them, I trust that the hypothesis itself will soon be discarded, as tending to allure the young, the unwary, and the inexperienced, into fatal errors of practice.

I think it proper to remark, that one reason, no doubt, of the great success attending the practice of these females is, that difficult cases of delivery, including, of course, all those which require manual and instrumental assistance, pass into other hands, and thus relieve them of responsibility; and that precipitate labours, accompanied by violent expulsive action, are of very rare occurrence in the agricultural districts, and among persons in the class of society which they attend. Precipitate deliveries, I need scarcely say, are connected with high mental excitement and nervous irritability, both of which are seldom met with but in the more refined circles of society, and are wholly foreign to the condition and habits of women who have been accustomed from their youth to manual labour and the rough realities of life*. Another reason is, that slow labours, as a general rule, are not *forced* either by manual interference, or by the internal administration of medicines; and it is wonderful to see, in such cases, how frequently patience on the one side, and the *fare niente* on the other, will bring matters at last to a favourable issue. The Hamiltonian system of terminating every labour in a given number of hours is utterly unknown to these rustic practitioners; and, after having seen a good deal of the results of both systems, I must say that if the one gives the quicker and more pleasant deliveries, the other gives the safer and more expeditious recoveries. It will not be understood, however, I trust, that I mean to represent these women as being in general more to be trusted in obstetric matters than the well-educated surgeon, or that I wish it to be supposed that, while unfortunately fatal cases sometimes occur in the higher walks of life under professional management, it can be truly said that, under the care of these females

"Peasants bring forth in safety."†

On the contrary, I am sensible that they commit many blunders which the man of education can avoid, and that their skill is utterly nought in many emergencies in which the other can render effectual service; and if I have ventured to represent them as capable of teaching the medical practitioner

* I would beg again to refer to Dr. Rigby's admirable chapter on Precipitate Labour, v. 9. Of course it will be understood that it is only in those cases of rapid delivery which are attended with violent uterine action, that lacerations and flooding occur. When the rapidity of delivery arises on the other hand from relaxation, neither of these casualties are met with. And here it may be proper to remark, that I use the term uterine action in conformity with general usage, but that I am inclined to think that in the act of parturition, as well as in vomition and the act *exonerandi alvum*, the principal agents are the abdominal muscles. Still, however, I readily admit, that none of these physiological points have been made out so satisfactorily as to admit of no doubt.

† Childe Harold, Canto iv.—In allusion to th unfortunate case of the Princess Charlotte.

a wholesome lesson on the treatment of floodings, it is not because I believe them to be generally in advance of the profession in knowledge, but because, being an age behind us, they have fortunately escaped from a fatal error into which the present generation, *in one instance*, has fallen, by lapsing from the safe and efficacious plan of treatment recommended and pursued by our forefathers.

And before drawing to a conclusion, I would beg leave to say, that I further trust the main facts which I have brought forward on the present occasion will not be rejected with disdain by the magnates of my profession as coming from illiterate females and veterinarians, who, it might be supposed, instead of giving a lesson to the highly-educated physician or surgeon on the present occasion, ought rather to be willing to receive one from him. But to no class of mankind can the precept "*noli altum sapere*" be addressed with greater propriety than to the cultivators of medical science; and hence it will be found that those who have been most successful in extending its boundaries were men who rejected hypotheses and paid much deference to the results of popular observation and experience. If Jenner had despised the opinions of the dairy-maids of Gloucestershire with regard to the immunity from the contagion of small-pox secured to them by the disease which they contracted from milch cows, he would never have caught the first glimpse of that great discovery which has elevated the dignity of his own profession, and conferred such inestimable benefits on the human race. And if Stromeyer had refused to learn from farriers the result of the sub-section of the contracted tendons in horses, he would never have got the credit of having introduced the greatest improvement in practical surgery which the present century can boast of.

And as this, I expect, is the last occasion on which I shall find myself called upon to lay before the profession a public exposition of my views on this subject, I shall now give, in as few words as possible, such a statement of them as will enable the reader to see at a glance whatever is peculiar either in my pathological doctrines or principles of treatment.

Floodings rarely occur after natural delivery to any very dangerous extent, if properly guarded against. They happen most frequently after instrumental and manual deliveries, and after deliveries rendered precipitate by the violence of the expulsive action, in all which cases they proceed from lacerations of the soft parts, sustained during the passage of the child. Those which occur after labours rendered tedious by the abnormal size of the child may proceed either from laceration or sloughing of the parts. Some rare cases are on record in which the blood would seem to have escaped by gravity from the uterine vessels owing to the mother having been raised into an erect posture while in a debilitated state*. Floodings which take place a few hours after delivery are owing to wounded vessels which have acquired increased activity after the depression occasioned by the shock of delivery has gone off. Those which take place some days after delivery are connected with sloughing of the parts which may either have been injured in the act of delivery, or become tainted by the presence of a putrid portion of the placenta. The phenomena of floodings being thus shown to be identical with those of hæmorrhages from wounded arteries, the same plan of treatment is clearly identical in both cases. Floodings, then, are to be treated by exposure to cool air, by cold applications to the parts, or, if need be, by cooling injections into the uterus and vagina; by elevated position of the pelvis, and moderate doses of opium. If arterial blood flow rapidly and continuously, an examination should be made, and if a wounded artery is detected it should be secured by the usual surgical means. Unless when rupture of the uterus has taken place, or the patient is labouring under the hæmorrhagic diathesis, floodings will rarely or never prove fatal if treated in the manner now described. In proof of this, I may again mention that this mild and cooling plan of treatment, to the utter exclusion of all attempts to stimulate the uterus by the introduction of the hand either for the purpose of squeezing the organ into a smaller bulk, or of compressing the bleeding point, was practised by Smellie and his cotemporaries with almost uniform success, and that it is still followed by the midwives in the rural districts of Scotland with the same fortunate results: and further, what tends greatly to confirm the views now stated in regard to floodings in the human subject, is the fact generally admitted by veterinary surgeons, that floodings in cattle proceed from the same causes, and are successfully treated by nearly the same means.†

* Such would appear to have been the nature of the hæmorrhage in a fatal case of flooding related by La Motte. His patient, who had been delivered on a low litter, or couch, as soon as he left her rose up and was attempting to get into a softer bed, when she was seized with so violent a flooding that she expired in the course of a few minutes. (Obs. 395). Some years ago, a patient of mine, much exhausted with a severe labour, having been raised into a sitting posture soon after delivery, was seized with a very alarming hæmorrhage. The effects of gravity on the bleeding of animals are well illustrated by M. Pierry, *Du Procedé Operatoire, &c.*

† We received this paper nearly two months since, and regret that we have not been able before to find room for it.—Ed. Gaz.

## THE SCOTCH EPIDEMIC FEVER OF 1843-4.

By John Richard Wardell, M.D., Ed.,
Late President of the Royal Physical and Hunterian Medical Societies, Edinburgh; &c. &c.

No. II.

[Continued from page 27.]

In the discussion of this part of the subject, it may be well, in a brief manner, to mention individually some of the allowed predisponents to epidemic diseases.

*Climate* exerts a powerful influence upon living bodies, and in various ways renders them liable to morbid conditions. Atmospherical vicissitudes, geological peculiarities, flat tracts of land, overgrown woods and forests, stagnant waters, the soil being of an argillaceous nature, thus retaining the moisture and producing the decomposition of organic matters; situations that are confined, as creeks and narrow valleys, where the air is calm; countries in which are extremes of heat and cold, with similar states, greatly determine the degree of salubrity or unhealthiness in a district. Sometimes it has occurred, after important changes have been effected in the general features of a part, as by the clearance of underwood, drainage, a better cultivation of the soil, &c., that the climate has become altered in the most remarkable manner, and evincing such change the fevers previously witnessed in the country have assumed a different type.* Bleak and exposed situations, by the judicious plantation of trees, may be rendered more healthy. In some of the kingdoms of Northern Europe, in which are extensive bogs and morasses, where the soil is highly impregnated with vegetable matters, it might be supposed that intermittents would be common, seeing that this class of fevers is generally associated with marshy districts; yet such is not the case, because the temperature of those regions is too low for the promotion of the putrescent process. Analogous to this, it has often been observed, during the prevalence of fevers in cities and large towns, that the setting in of frosty weather has abruptly arrested the ravages of a distemper. In different latitudes different affections prevail; in the north countries typhus, inflammatory conditions of the air-passages, rheumatism and tubercular complaints; in the tropics, intermittents, remittents, and dysentery.

*Seasons and Weather* undoubtedly enter into the epidemic causation, and different disorders predominate as they vary. In Spring, small-pox, measles, and scarlatina; in Summer, low fevers; in Autumn, diseases of the mucous membrane of the alimentary canal; and in Winter, acute affections of the fibrous tissues, and typhus fever, are common. In some parts of the world certain seasons of the year are regarded as infallibly productive of peculiar complaints. A friend of my own, who had travelled in most quarters of the American Continent, informed me that the inhabitants of New Orleans annually anticipated the "sickly season" with so much certainty, that it was usual for the merchants and others at that period to remove several hundreds of miles distant, returning when the unhealthy months had passed over. Seasons in an indirect as well as in an immediate manner operate in the induction of disease; viz. by rendering the crops deficient and deteriorating their quality, especially in insular and other countries, where the natives mainly rely upon the productions of their own lands.*

Hippocrates in his time observed, that when the weather continued for a long period at one degree of temperature, not mattering whether of great heat or cold, then diseases were of less frequent occurrence, nor of so grave a character. During a long fit of dry or wet weather, a prevailing disorder will maintain an evenness in its symptoms, and if irregularities of temperature, &c. come on, the public health is more affected, and diseases will assume different features. In proof of this assertion, Tables IV. V. VI. and VIII. may be referred to. Table IV. (which was compiled during the autumnal months, when biliary complications are most prevalent), shews that the number of jaundiced, or "yellow cases," as they were usually termed, ran so high as 1 in 8.91, being an average taken from 330 cases then in the Edinburgh hospitals. In Tables V. and VI. taken about a month subsequent to the former, the number became less, being 1 in

* Dr. Rush.

* Annesley on the Diseases of India.

11.42; and in Table VIII. formed in the last month of December, 1843, a further decrease was observed to 1 in 16.07, and in Table X. drawn up in April, 1844, out of 80 patients labouring under the fever, only 2 of that number, being 1 in 40, were *yellow cases*. Here, then, we have an indisputable proof, that as the season and weather varied, the prevailing distemper altered in a corresponding ratio. It might be that electrical or other states were removed by a lower degree of temperature, or that certain impurities suspended in the atmosphere required the addition of heat in order to fully elicit their deleterious effects upon the body. High winds and tempests have been known to cut short a pestilential visitation.* In a calm, stagnant state of the air, the effluvia which it contains will of course be more concentrated, while a gale of wind might so far dilute the poison as to render it innocuous.

*The Decomposition of Organic Matters* by contaminating the air, powerfully predispose the body to disease; and when it is taken into account that the majority of the poor, especially in the cities and large towns, are almost constantly exposed to stenches emanating from sinks, drains, and cesspools, which in those localities where they reside are mostly loaded with filth, and the general accumulations from an impoverished and redundant population, it becomes not a matter of surprise that fevers frequently in such places prevail, but that they do not rage in a much greater degree. To give the reader an adequate idea of the evils in question existing in Edinburgh, the following description may be quoted from the Poor Law Report of 1842. "We entered a dirty low passage," says the author, "like a house-door, which led from the street through the first house to a square court, immediately behind which court, with the exception of a narrow path around it leading to another long passage through a second house, was occupied entirely as a dung receptacle of the most disgusting kind. Beyond this court the second passage led to a second square court occupied in the same way by its dung-hill; and from this court there was yet a third passage, leading to a third court and third dung-hill. There were no privies or drains there, and the dung-heaps received all filth which the swarm of wretched inhabitants could give; and we learned that a considerable part of the rent of the houses was paid by the produce of the dung-heaps. Thus, worse off than wild animals, many of which withdraw to a distance and conceal their ordure, the dwellers in these courts had converted their shame into a kind of money, by which their lodgings were to be paid. The interiors of these houses and their inmates corresponded with their exteriors."* The foregoing quotation forms a most graphic account of the residences of the poor in the Scottish metropolis, and it might also with equal aptness be applied to Glasgow, Paisley, Dundee, and other towns in Scotland where the epidemic raged. From places to which the previous description is applicable, ¾ths of the patients admitted into the Edinburgh Royal Infirmary and supplementary Fever Hospitals, were brought. From Table VII. it is shewn that the number was nearly two-fold greater, as we there see that 66 out of 80 cases, being almost ⅞ths, resided in streets, closes, and dirty wynds, similar to the places described; and in Table X. out of other 80 cases, no less than 55 came from like situations. In the Poor Law Report, to which reference has been made, the writer says that a vast population in the West of Scotland, when the kelp manufacture ceased, were reduced to the greatest want, "yet as their habitations were scattered, and in pure air, cases of fever did not arise among them." By constantly inhaling the putrid effluvia circulating in the atmosphere of those localities in which the poor dwell in the cities and large towns, the pernicious effects cannot fail to result in the production of disorder throughout the system, and when a distemper like the one to be described becomes manifest, how the predisponent in question will operate can readily be conceived.

*Dense Population.*—Where a number of individuals live crowded together in small and ill-ventilated apartments, the air becomes so vitiated as to be wholly unfit for the respiratory function. The oft-cited melancholy occurrence which took place in the Black Hole of Calcutta, is but the superlative degree of a condition, which in a com-

* Dr. M'Kenzie.

* Poor Law Report, 1842. Page 24.

parative manner goes on in some of the hovels of the poor, in manufactories, prisons, &c., in this country. My friend, Dr. Renaud, informed me that during the Scotch epidemic of 1843-4, he visited a family in Grassmarket, and no less than *seven* individuals were laid ill of the distemper in a close and dirty apartment, which was not more than 8 or 9 feet square. Some of the common stairs in the large towns of Scotland form the general entrance to forty or fifty, and sometimes a greater number of inhabitants. At the termination of each flight of steps, are main entrances to internal passages or *lands*, as they term them, and on either side of these lands are small, badly lighted, and ill-ventilated apartments, one of which frequently serves as the night and day room to a whole family; in fact one of these wretched places constitutes the whole house. When a fever breaks out in these thickly populated dwellings, its extension becomes inevitable, and from such pestiferous situations innumerable patients were conveyed to the hospitals during the epidemic. The extreme poverty and wretchedness of the people who inhabit them, give no choice in regard to their dwellings or the locality in which they are placed, their destitute condition binding them as firmly to those places as the polype is united to its rock.

*Insufficiency of food and clothing, with the want of the comforts and necessaries of life*, enter importantly into the epidemic constitution. That a bad and insufficient diet with any set of people is exceedingly favourable to an unhealthy condition of the body is most undoubted, and cannot for a moment be the subject of hesitation. Whatever lowers the tone of vital action, whatever destroys the physical powers, renders the system prone to the contraction of disease, and when such disease is contracted, morbid action becomes far less supportable. Amid a desponding and half starved population, an epidemic attack is often attended with unusual severity, and scarcity of food has ever been regarded as a frequent forerunner of these visitations. Dr. Hunter says, "If other causes have slain their thousands, scarcity of nutritious food alone has slain its tens of thousands. My experience justifies and warrants me in affirming that, where people have not sufficient nourishment, there typhus manifests itself with all the horrors of a depopulating plague. Witness Ireland!" The evils insisted upon in an indirect mode are attended with destructive consequences; viz. by insidiously sapping the general health, and sowing the seeds of organic disease—as may be witnessed in the numerous forms of scrofula, &c. which in this country so fearfully swell the bills of mortality. Previous to the appearance of the epidemic in Edinburgh, hundreds of the poor had been in a state of positive destitution, and the various public charities had been innundated with applications for relief. Dr. Alison cites an instance where individuals had to live upon 4d. per week, a pittance so inconsiderable as to render it an enigma how existance was in any manner maintained. With those families with whom the greatest poverty existed, there the fever most frequently occnrred. Where food was with such difficulty obtained, clothes and other necessaries could scarcely be expected. In a cold and variable climate like that of Scotland, to be warmly clad is indispensable with the maintenance of health, and when such cannot be procured it becomes, like the former, a potent predisposing cause entering into the epidemic constitution.

*Mental depression.* — Between the body and the mind there exists a sympathy so intimate that the evils inflicted upon the one cannot fail to be extended to the other. The mind being depressed renders the system exceedingly prone to take on morbid action, whilst, on the other hand, mental excitement endows the body with a certain repellent power by which it is capable of warding off disease. Great national calamities, political disasters, stagnation in trade, and the like, are often the preludes to ill health, and the "strikes" of miners and manufacturers have not unfrequently been succeeded by febrile affections. The French revolution exerted the greatest influence upon public health, and was marked by several wonderful effects which it produced in the people. The testimony of military writers has repeatedly proved, that high mental excitement can prevent the inroads of disease and arrest its development; and the van-

quished troops are always more sickly than their victorious enemies. Our unfortunate retreat at New Orleans too truly illustrates the fact. While the soldiers were engaged in active warfare the distemper which had previously existed amongst them was wonderfully checked; although the same physical causes to which they had been exposed, and that undoubtedly gave rise to the disease, remained in operation; but after the decisive charge had been made, the day lost, and thus all buoyant hopes extinguished, then it was that the fever returned with unwonted severity, destroying many whom the sword had spared. The epidemics in Ireland have generally been preceded by some common calamity, and, did space allow, numerous instances might be adduced where these visitations succeeded general depressions of the public mind. Dr. Alison, in his "Observations on the Fever of 1843-4," has shewn that the class of persons, with whom the epidemic was almost wholly confined, suffered under very great privations before the disorder became apparent; and that gentleman's facts, which he advances with respect to the poor in Glasgow, are quite in accordance with the data collected by myself in Edinburgh.

| | Number examimed. | In full work when attacked. | In partial work "insufficient for support." | Wholly out of work. | Total destitute. |
|---|---|---|---|---|---|
| Glasgow Infirmary . | 197 | 69 | 85 | 43 | 128 |
| Havannah District . | 163 | 53 | 83 | 27 | 110 |
| Greenock Hospital . | 76 | 13 | 53 | 11 | 63 |

In Table I. upon reference it will be seen that these results are quite in keeping with the facts ascertained in Edinburgh; viz. that by far the greatest number of the patients admitted into the hospitals in the distemper, were either wholly destitute or bordering upon destitution. In table IV. it is stated, that out of 330, 146, *not one half*, were in constant work; 89 were partially employed, and 95 out of employ, so that 184 were unable to obtain a sufficient support. In Table VII. which gives particulars respecting 80 patients, 34 were in partial work, and 20 destitute, making 54, or more than 5-8ths, who were labouring under the evils of poverty at the time of their attack. That such circumstances would act as a powerful depressing cause is most obvious, and there can be little doubt that the epidemic was much more general on account of this condition, which was so common amongst the lower orders of the large towns where it chiefly raged.

*Contagion.*—There are few subjects through the whole range of medical science admitting of so much diversity of opinion, and that have been disputed with such warmth, as contagion; and considering how important it is in a political and commercial as well as in a medical point of view, is any doctrine within the limits of the physician's inquiries more desirable of a correct decision? seeing too, that an inclination to one side of the question or the other might involve the result of life or death. The accumulation of facts which from time to time might be collected, and a strict investigation being made relative to this point at each epidemic visitation, might perhaps have the happy effect of clearing up the inquiry, and satisfactorily settling a topic hitherto held in so much controversy.

Non-contagionists argue that fever may be generated by a combination of causes without the addition of a specific poison; but were we to sweepingly receive this opinion, facts would demonstrate that many unequivocal examples powerfully arguing in favour of an opposite way of thinking, would have, if possible, to be got rid of, and unheedingly passed over. It is true that sometimes a sporadic case may occur, apparently under circumstances highly favourable to the extension of the disease, and yet such extension not take place. But how do we know, that certain other elements entering into the causation, independent of those apparent, may not be wanting to form the epidemic constitution, and these of some subtle nature so as to escape detection, and elude the researches of experiment or otherwise; for instance (as mentioned

before), electrical or other states of the air? Again, presupposing the requisite elements necessary for the epidemic constitution to be in existence, it might be that they would require blending in definite proportions, as we know such to be the case with regard to the laws of chemistry. Therefore, from these premises, we may conclude, that it does not necessarily follow, that every sporadic case (admitting the means whereby the specific poison might be communicated), occurring, as we have said, amid the existence of *apparent* causes forming the epidemic constitution, should become epidemic. The proposition which I would advance respecting this subject, is, *that states similar to those previously enumerated, might cause an epidemic, yet they do not form the sole cause.* Why is it less probable that continued fever should have its prime origin in a poison *sui generis*, than that the virus of small-pox should be of a specific nature? We know that this disease existed in the world thousands of years ago, and in one part or another it has continued ever since. During the time of the Grecian Empire, small-pox was known, and that it was a disease which afflicted humanity in China and Hindostan, antecedent to the days of the ancient Greeks, there are good reasons for believing; yet who ever disputes its proceeding from a specific poison? Non-contagionists advance, that when a considerable time elapses, and a fever manifests itself, and no instance can be given whereby the poisons could have been communicated, that such a state of things would argue powerfully in favour of self-generation. We are aware, however, that the poison of some snakes, as also of rabid animals, will occasionally lie inert in the system for a considerable period, and then (when extraneous conditions, and certain idiosyncrasies furthered its development), come into active operation. Professor Alison, in his lectures, used to mention two cases which had come under his observation, that well illustrate the fact under consideration. The first was that of a man who had resided in the fens of Lincolnshire; he removed to Scotland, and lived in a situation that was elevated and clear of marsh miasms, yet after the elapse of *four months* he began in intermittent fever. The second was that of a student who had lived for some time near the Pontine Marshes in Italy; he afterwards came to Edinburgh, and at the expiration of *nine months* he had an intermittent. If the poison which produces intermittent fever can lie so long dormant, and then come into active operation, why may not that which produces another form—namely, the continued, be subject to similar laws? Instances of shipwreck have occurred, where almost every acknowledged element entering into the epidemic constitution existed, yet no fever became manifest. Dr. Watson, in his lectures on the Practice of Physic, quotes from the benevolent Howard, who says, "If it were asked what is the cause of jail-fever, it would generally be replied the want of fresh air and cleanliness; but as I have found in some prisons abroad, some cells and dungeons as offensive and dirty, as I have found in this country, where, however, this distemper was unknown, I am obliged to look out for some *additional cause* for its production."* In a recent account of the Island of St. Kilda†, the author mentions an instance powerfully supporting the doctrine of contagion. The clergyman, resident in the island, informed Mr. Wilson that on various occasions he had observed, when a boat arrived from the mainland, the little community had become affected with an epidemic catarrh, which was easily traceable to the fishermen belonging to the mainland boat. At the battle of Corunna, our soldiers were affected with a peculiar form of fever, similar to which no cases existed in this country, yet on the arrival of the troops, after the engagement, at some of our seaports—nurses, medical officers, and others, whose duties brought them in contact with the sick soldiers, contracted the same distemper. As to the fever of 1843-4, indubitable proofs were afforded of its contagious properties. Most of the medical officers connected with the Edinburgh Royal Infirmary, and additional fever hospitals, were seized with it; 8 of the resident and clinical clerks in quick succession became affected, and out of that number no less than six were yellow

* Dr. Watson's Practice of Physic, Vol. ii., p. 703.

† Wilson's Voyages round the Coast of Scotland.

cases, and thus obviously in danger of their lives. The majority of the nurses and domestics took the disease, and of the former at one time no less than 19 were labouring under it. Some of the dispensary physicians, and other practitioners, took the disorder, as also several of the clergy, and visitors of the sick, whose duties brought them to the bed-sides of the patients. The few cases occurring amongst the higher classes, resident in the new town, were generally to be traced to the influence of contagion, the parties affected having had either immediate or indirect communication with those suffering under the disease.

Dr. Cormack, in his treatise on the fever, mentions an interesting fact, evidently proving that the distemper was communicable to remote parts, by means of articles of dress, &c. "Mr. Nicholson, from the Island of Skye," says the author, "one of my pupils, informed me that two reapers who had had the fever in Edinburgh, arrived in his neighbourhood after their return home, at the close of the harvest, when not a single case of fever had been seen in that district. The mother of these persons, with whom they lived from the time of their arrival, was in a few days seized with the disease, and died." Being intimately acquainted with the gentleman from whom Dr. Cormack received his information, I made several other inquiries relative to the fact, and found that the identity of the fever thus imported, with that form then raging in Edinburgh, was undoubted. Were ærial and terrestrial, or similar causes sufficient of themselves to produce continued fever, we could scarcely attribute the foregoing circumstance to mere chance. According to the doctrines of contagion, no individual in the whole island—out of the total population, amounting to more than 25,000—was so likely to become affected, as the mother of the parties who were then convalescents from the fever, who washed their linen, and was of course brought into immediate contact with the inmates; and, as might have been anticipated, she contracted the distemper.

The gentlemen resident in the Edinburgh Infirmary, who acted as the surgeons' assistants, none of them took the epidemic, although liable to the same local and common causes, as the clerks whose duties lay in the medical wards, but they had no communication with the fever patients, and were not exposed to the poison, which at once accounted for their immunity. In Glasgow, Aberdeen, Dundee, Paisley, Leith, &c., the most undoubted proofs were afforded of its being of a highly contagious nature: and, did space allow, innumerable facts might be adduced in support of the assertion.

Pickering, Yorkshire.

To be continued.]

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ON

# THE DEPURATION OF THE BLOOD.

By G. H. Barlow, M.D.

Physician to Guy's Hospital.

*Read before the Physical Society of Guy's Hospital.*

It is not my intention upon the present occasion to enter upon a description of all the changes which the blood undergoes in its circulation through the body; a sense of my own incapacity to do so, no less than an unwillingness to trespass at so great a length upon the time of the Society, deters me from the attempt. Nor do I propose to treat specifically of the different excretory matters which are formed in the progress of the circulation; my object being to elucidate in some measure the mode in which those matters are removed from the system; to illustrate, in short, the *mechanism of depuration*. Neither am I about to propound any opinions altogether novel, as the doctrines which I now submit to the Society have, for the most part, been individually, and, as it were, in detail, advocated by myself at different times and in separate papers. I now merely wish to bring them collectively and briefly, but at the same time systematically, before the Society, in order to test them by the scrutiny of my professional brethren.

It was observed by an ancient physician,* that animals live by two things, air and food; and if by this expression he meant that from these sources were derived the materials or elements which, entering into new combinations, form the pabulum for the nutrition

* Aretæus: περὶ πνευμονίης.

of the various textures, and the fuel and supporter of combustion for the maintenance of animal heat, he was perhaps in advance of the popular notion of the day. As a parallel to this aphorism of Aretæus, I would lay it down that the blood of the living body is depurated or freed from redundant or noxious matters, by two things, air and water.

The researches of physiological chemistry have made it apparent that the food, by which I mean that portion of it which is digested and taken into the circulation, is applied to two purposes, both equally essential to the maintenance of life. A part, consisting of carbon and hydrogen, is slowly burned in the extreme circulation, and by this slow combustion animal heat is supported; but, for the maintenance of this combustion, a supply of oxygen is necessary, and this oxygen is furnished by the air which enters the lungs at each inspiration. Another portion, which contains a larger proportion of azote, is applied to repair the continual waste of the tissues, or in other words to supply the place of the effete matters which may be removed from the system. We see, then, the truth of the assertion, that air, which supplies oxygen as the supporter of combustion, and food, (by which is meant organic matter,) which supplies carbon the combustible, and azotic principles to replace the effete particles of the tissues, are the two great supporters of animal life. But, as a necessary result of these two processes of combustion and nutrition, we must have the products of the combustion, (to wit, carbonic acid and water), and effete particles, whose place is supplied by nutrition, to account for; and the question arises, are these carried out of the system? and how? Now I need not stop to shew that the products of combustion, carbonic acid and water, are carried out of the system by the lungs; neither is it necessary to prove that the former of these acts as a poison when retained in any great quantity in the circulation. I would merely notice, that in order to its being removed from the blood, this fluid must be exposed in the extreme branches of the pulmonary vessels to the air, or some gaseous fluid in the air-cells. I say to *some* gaseous fluid, for it has been shewn by various experimenters, any other gas that can be applied in this manner to the pulmonary vessels is capable of abstracting the carbonic acid from the blood by the law of the diffusion of gases, death being caused in such cases by a want of the supply of oxygen, the supporter of combustion; whereas, in cases of obstructed respiration, as from immersion in water, or closure of the larynx or trachea, the cause of death may be said to be two-fold, namely, the want of a supply of oxygen, and also the non-admission into the pulmonary cells of an elastic fluid to act as a solvent of the carbonic acid, and to remove it from the system. It has, moreover, been shewn by Stevens and others, that the action of such a solvent, or, to speak more accurately, the attractive force of a gas so applied, is a far more effective means of removing another gas from a liquid, than is the mere elastic force of the gas to be removed. Thus it was found that venous blood, under an exhausted receiver, gave out no carbonic acid, whereas that gas was quickly evolved when the blood was placed in an atmosphere of hydrogen.*

It follows, then, that as in the course of the circulation, a gas is formed which must be removed from the system, and as this is most readily effected by exposing the blood to another gaseous fluid, it is expedient for the purpose of depuration of the blood that it be brought in contact with the atmosphere, either directly or with the intervention merely of a thin membrane. This is effected in the latter mode by means of respiration and the pulmonic circulation. We see, then, that in the removal of the principal gaseous impurity of the blood, air is the main agent employed. It is true, indeed, that water and carbonic are the only excretions or exhalations from the membrane of the air-cells in the perfectly normal state; but, as is remarked by Dr. Alison, it is certain that many volatile matters taken into the stomach are excreted unchanged, or but little changed, with the breath; and, probably, the body is thereby saved from their injurious effects. It may, therefore, be stated more generally, that air is the agent by which the gaseous impurities are removed

* Muller's Physiology, by Baly, vol. i. p. 326

from the blood. It must also follow from hence, that if the free access of air to the cells, or the free circulation of the blood through the lungs be impeded, the inquination of the blood by gaseous excretions must be one of the consequences. I say advisedly *one* of the consequences, as there are also others which I have endeavoured to explain elsewhere, and which it would occupy too long a time were I to describe them in this place.* In fact, I have now introduced the consideration of the pulmonary or gaseous excretion, principally for the sake of the analogy by which the better to explain the subject of the hepatico-renal, or watery excretion.

In speaking of the bile and the urine, it is perhaps hardly necessary that I should enter into the question of the sources whence the constituents of these secretions which exist in the blood; are derived a few facts which are, I believe, now generally admitted, will be sufficient for my purpose.

The former of these secretions is a liquid, consisting of water, holding in solution certain soluble principles, which are uniformly present in health; these principles are, in part, though most probably not wholly, excrementitious; certain, however, it is, that the bile cannot be retained in the system, without causing considerable disturbance there. These principles are also present in healthy blood, and it is the office of the liver to remove them.

The urine, again, is a liquid consisting of water, holding in solution various solid matters, which may be divided into two classes. 1. Those lower organic products which are formed in the extreme circulation, or, in the phraseology of Liebig, the products of the transformation of tissues, *e. g.* urea, urates, &c. And 2. Those soluble substances which are taken in with the ingesta, and which do not undergo decomposition in passing through the system, as, for instance, neutral salts with inorganic acids, &c. The matters of the former class produce an injurious effect upon the system when not expelled from it, and I need hardly add that both these classes of substances are carried off by the kidneys.

Now, it may appear needless to remark, that both the liver and the kidneys are adapted to excrete only liquids, and, consequently, that the elements of the bile and the urine cannot be removed unless they are brought to these organs in a state of solution, in which state also they must pass through their excretory duct. Hence it follows, that a continual supply of water is necessary for the depuration of the blood from those matters, which it is the office of the above named viscera to remove.

The course of the water fulfilling this office, may be traced as follows. That which is received into the stomach is, with such soluble matters contained in it as are not decomposed in the primæ viæ, taken up by the capillary branches of the vena portæ, carried onwards with the blood through the portal trunk, and again dispersed through the ramifications of that vein in the liver; here a portion of it is again separated from the blood in order to form the solvent for the solid contents of the bile. Passing onwards through the pulmonic and systemic circulations, the redundant water of the blood carries with it those undecomposed soluble matters which it contained at first, and receives, or rather acts as a solvent to, those products of the transformation of tissues which act as poisons if retained, and are, therefore, uniformly excreted from the system, or, at least, from the nourishing fluid. Holding these matters in solution, it is carried on with the current of the blood, (furnishing in its way the water requisite for various secretions,) to the other great excretory organs, the skin and the kidneys, where it passes out of the system, carrying with it, in solution, through each of these, the matters which that organ is more expressly designed to eliminate, but which, as has been already observed, it cannot separate unless brought to it in solution.* We see, then, one important part which water performs in the animal œconomy,

* See Essays on "Defective Expansion of the Lungs," Guy's Hospital Reports, vol. vi. page 235, and vol. vii. page 467; also Gulstonian Lectures, MEDICAL GAZETTE, vol. i. 1843-4, pages 705-50-85.

* It may be said that the immediate absorption of fluids by the veins is here taken for granted, and that no attempt has been made to prove it. In reply to this, I would remark that the evidence of venous absorption is to be found in most modern works on physiology.—See Müller's Physiology, by Baly, vol. i. page 238, et seq.

and as we have already pointed out that a due supply of atmospheric air, and its free access to the air-cells of the lungs, is necessary, in order to eliminate the carbonic acid which is the result of the combination by which animal heat is maintained, so is the due supply of water, and its free passage through the course which has just been laid down, necessary to the removal from the system of those lower organic products, the result of the continual transformation of tissues necessary to the maintenance of the life and health of the body, but which act as poisons if they are not quickly expelled from the system; or, in other words, air and water are the agents employed by nature for the depuration of the blood. We have also seen that there is an apparatus provided for the application of each of these substances to the blood, in such a manner as to enable them to receive and hold in solution the substances which it is necessary that they should remove.

Now, as regards the consequences of imperfection in the apparatus for removing the gaseous impurities, namely, the respiratory organs, whether such imperfection consist in impediment to the sufficiently close application of the air to the blood, as in disease of the bronchial membrane, or in obstruction to the free passage of the air into the lungs arising from disease or defect of those organs, or their compression by effused fluid or distorted chest, or in obstruction in the larger air-tubes, or in a want of free passage of blood to or from the lungs, as in disease of the heart, they are, I think, pretty generally recognised; it may, therefore, be sufficient to remark, that these morbid consequences are generally of a twofold character.

1. Those arising from the inquination or non-depuration of the blood; and 2. Those produced mechanically by obstruction to the circulation of the blood through the lungs, as sanguineous congestions, effusion, &c.

The effects of obstruction in the course which the water absorbed into the circulation pursues through the system until it finally escapes by one of the excretory organs, have not, as far as I am informed, been traced by authors so systematically as those arising from impeded respiration.

These morbid consequences may, as in the former case, be divided into two classes. 1. Those arising from retained secretion: 2. Those produced mechanically by obstructed circulation, and, in addition, there may be the direct effect of the primary lesion, which produced the obstructron.

The first entrance of the water into the circuit, which I have already traced, may be opposed, as it were, *in limine*, by obstruction high up in the intestinal tube, and under such circumstances, according to the above principles, we ought to have deficient secretion of urine. Let us now put this to the test of experience. In all the cases which I have met with, of constipation arising from obstruction situated in the upper part of the small intestines, and (as is common in such cases) attended with the speedy rejection of everything taken into the stomach, the urine has been nearly if not entirely suppressed; in some instances this suppression has been so complete, as to give rise to a suspicion that the disease was in the kidneys and not in the intestines.* Such cases present a remarkable contrast to those of constipation seated low down in the canal, asin the case of twisting of the sigmoid flexure,† in which the urine is never notbly deficient, and sometimes remarkably copious. In the former cases (those of obstruction at the upper part of the alimentary canal) there is also a great deficiency in the quantity of bile.

In tracing the course of the fluid onwards from the intestines, we shall, I think, find that the effects of obstruction, at every point in that course, are, as far as they have been observed, strongly confirmatory of the correctness of the opinions which have just been advanced. I have not, at present, any accurate record of the effects upon the secretions of simple obstruction of the portal trunk. If, however, we look to the effects of obstruction in the ramification of that vein in the liver, as manifested in induration of that organ, we find the urine remarkably scanty, and the bile depraved in quality, and one of the results is effusion into the serous covering of those parts whose veins empty themselves into the porta.

It is rare, perhaps, to find great

* Guy's Hospital Reports, 2nd series, vol. ii. page 384.

† Ib. page 371.

impediment to the passage of the blood, resulting from occlusion of the venæ cavæ hepaticæ; such a case, however, did occur under my care in the clinical wards of this hospital in the spring of 1844,* the entrance of these veins into the cava being nearly closed by a malignant mass in the latter vessel, the obliteration of the cava being compensated for by the establishment of a fine circulation thro the right azygos vein, and the superficial veins of the trunk. In this remarkable case, the urine was very scanty, and diuretics were ineffectual; there was also great ascites, and latterly, but only towards the close of life, œdema of the lower extremities.

The same deficiency in the quantity of the urine will also be found when any great impediment exists to the transit of the blood through the lungs and heart. †

In the earlier stages of the granular or Bright's disease of the kidney, we have, for the most part, an abundant secretion of urine, as far as regards the quantity; the abnormal condition of that fluid consisting in the absence of some of the solid ingredients of healthy urine, and the presence of one of the constitutents of the blood. In the more advanced stage of the same disease, when the kidney has become contracted and indurated, the quantity of water excreted is defective, as well as that of the solid contents, but in both states the depuration is imperfect.

It has, however, now been shewn, only that the quantity of the liquid secreted under the above conditions is defective, but as yet no evidence has been adduced of this defect being attended with any of the recognised effects of non-depuration.

Now, under the first-mentioned condition, that of a deficient secretion arising from obstruction in the upper part of the intestinal tube, we may not unfrequently find some of those symptoms which have been pointed out, as occurring in connection with retained secretion. Thus, in the lad already alluded, (in whom the duodenem was found obstructed by a bridle of false membrane pressing upon it,) there was, hotwithstanding, occasional paroxysms of pain, a quiet stupor without delirium, which, as has been pointed out by Dr. Addison,* is one of the most characteristic forms of the cerebral affection consequent upon retained secretion. This patient had also severe cramps. Now, I do not mean to assert that these were independent of the intestinal irritation, but I would call attention to the fact, that spasmodic affections are frequently observed in those who are the subjects of Bright's disease of the kidney, in which there is retention, or rather non-secretion of the solid contents of the urine.

But here it may, perhaps, be asked, whether, if these symptoms of retained secretion are observed in cases where the passage of water into the system by the gastro-intestinal mucous membrane is prevented, we ought not to have somewhat similar consequences when water is very rapidly carried off through the same membrane. The most notable example of this is furnished by the epidemic, or spasmodic cholera. In that remarkable disease, not only is there suppression of the secretion of urine, but that of the bile is arrested likewise, and what is more, we have in this disease symptoms indicative of the effect of retained secretion upon the nervous system, as spasms, and a great tendency to coma, or stupor without delirium. It appears to me, indeed, that amongst the other conditions of this mysterious disorder, there is, owing to so great a quantity of water being carried out of the system by stool, a want in the blood of a sufficient quantity of that fluid to carry off in solution those substances which ought to be eliminated by the liver and kidneys, and which are, consequently, retained in the system, and there act as poison. Neither does this belief rest merely upon hypothesis, as one important element of the urine, viz. urea, has been frequently found in the blood of cholera patients.

In those cases in which the portal circulation is impeded by induration of the liver, there cannot be so complete an obstruction to it as to close the communication between the extreme vessels in the small intestines, and the venæ cavæ hepaticæ, since life would not be continued many days

* Guy's Hospital Reports, 2nd series, vol. ii. page 398.

† Guy's Hospital Reports, 2nd series, vol. iv. page 283.

* Guy's Hospital Reports, vol. iv. page 2.

under such circumstances. There is not, therefore, in such cases, ordinarily so much impediment as to prevent a sufficient quantity of fluid being taken into the system to hold in solution the substances which are ordinarily excreted by urine. It often happens, more especially in the advanced stages of induration of the liver, that both waste and nutrition are going on feebly, and, therefore, the transformation of tissues takes place slowly, and, consequently, its products are not abundant, and, therefore, the urine, though scanty, is not loaded with solid contents: accordingly, we do not, under such circumstances, meet with the symptoms of retained secretion; the fluid, which is poured out into the peritoneum, consists of little else than water and salts, shewing the passive nature of the effusion. In the earlier stages, however, of the same disease, before the system has become greatly reduced, and when there may be even some inflammatory action present, we commonly find the urine of high specific gravity, and loaded with lithates, or purpurates, and in some extreme cases of portal obstruction it may happen that sufficient excretory matter is retained in the circulation to give rise to great liability to serous inflammation, which often manifests itself after the operation of tapping. This I believe to have been the case in the instance of obstructed cava, and hepatic veins, which has been already adduced.

There is an important practical inference to be drawn from the above remarks, and one too which is confirmed by experience, namely, that when the circulation through the liver is materially impeded, those substances which are commonly administered as diuretics cannot readily pass into the general circulation, and consequently do not reach the kidneys in sufficient quantity to produce the effect for which they were administered; after, however, having unloaded the intestinal capillaries, which are in fact the origins of the portal vein, by means of a brisk purgative, we are often enabled to procure diuresis in cases where we should have failed without such a preliminary measure.

The above remarks are perhaps equally applicable to the obstruction to the circulation, through the lungs and heart; such obstruction being always attended with great engorgement of the liver, and consequent embarrassment of the portal circulation. The direct consequences of the derangement of the pulmonary circulation, and impediment to the function of respiration, would, however, be probably the more urgent. Finally, when the kidneys themselves are diseased, we may have the whole secretion, *i. e.* the water as well as the solid contents, retained, or we may have the water passing off by the kidneys and carrying with it some of the ingredients of the blood, the urea and other constituents of healthy urine remaining in the system. In such cases I need hardly add, that the symptoms of retained secretion are often most apparent.

I have now endeavoured to trace the course of the blood, in its progress through the depurating organs, as well as of the fluid, (in the one case a gas, and in other a fluid), which is employed to hold the secretory substances in solution, and carry them out of the system. Much that has been stated may appear little better than a tissue of truisms, and, more, may appear objectionable; still I believe that this subject, and the method adopted in investigating it, is by no means unworthy of the attention of this Society and the profession, since the including all or several of the important organs of the body in our inquiries respecting the derangement of any function, or class of functions, is likely to lead to the establishment of principles more sound and of more extensive application than could be hoped for from the too special pathology which formerly prevailed.

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### DEATH OF LORD BACON.

It is stated that this great apostle of experimental philosophy became its martyr. He wanted to make an experiment on the conservation and induration of bodies; for he entertained the notion that flesh would keep as well in snow as in salt. He insisted upon stuffing with his own hands the body of a fowl with snow, obtained under a hedge in Highgate; but he was thrown into such a shiver, that he could not be carried back to town, and he was taken to the house of Lord Arundel, in that village. As ill-luck would have it, he was put into the state-bed, which had not been occupied for a year, and from that bed he was speedily borne to his grave.—*Campbell's Lives of the Chancellors.*

# MEDICAL GAZETTE.

FRIDAY, JAN. 23, 1846.

We have heard, upon good authority, that it is Sir James Graham's intention to abandon the fourth Medical Bill, which has given rise to so much division of feeling in the profession. Legislation must therefore begin *de novo;* and let us hope that as the four successive attempts of the Home minister have elicited strong opinions from all parties in the profession, the experience thus acquired may lead, in another attempt, to a more successful result. That any legislator should ever succeed in reconciling the conflicting interests of all those who will be affected by medical legislation, is a moral impossibility. Physicians, surgeons, general practitioners, apothecaries, and pharmaceutists, have shown, by the opposition with which they have received one or all of these measures, that no law can be passed which does not in some shape interfere with what they have hitherto regarded as exclusive privileges. That which met with the approbation of one class, was immediately denounced by another: and we think argues the possession of no small amount of perseverance, on the part of any minister, to make four attempts to satisfy the corporate bodies of a profession, which appeared to have among them no common principle of agreement.

Admitting that the announcement which we now make upon what we consider to be good authority, should turn out to be correct, we shall not proceed to draw the inference, that medical legislation is altogether abandoned. The discussions that have taken place, clearly show that if there is a want of unanimity among its members respecting the remedies to be applied, there is no doubt of the existence of great abuses. Some of the clauses of the last measure strikingly show to what a disorganized state the profession must be reduced, to require special enactments for the repression of offences, which bring with them immediate expulsion or deprivation in those who are members of the Church or the Law. Besides, we question whether, after having raised hopes and excited expectations of a final settlement, it would be wise or politic in any minister to leave the profession to its fate. The effect of this must be, that from a bad it would speedily pass to a worse condition. The four Bills have clearly brought to light its weak points; and there is no doubt that advantage will be universally taken of these by individuals, who are little scrupulous of the means whereby they enter the profession. Education as well as practice is at present without efficient control. Men may purchase a right to a respectable title by forged certificates, and an odious system of grinding which cannot be put down by the present mode of conducting examinations. When they have once obtained a diploma, they may set at defiance those who have granted it, and bring disgrace upon the title of physician or surgeon.

The present abandonment of the measure will not prevent us from examining the principles on which it is proposed to legislate for the correction of certain avowed professional abuses. We have no purpose to serve but that which we consider to be the good of the profession, and a desire to see it placed on the same respectable footing as other professions. A proper system of medical education, and a wholesome discipline for the regulation of the conduct of its members, are most ur-

gently required. Without these, it must continue to fall in public estimation; for here, if anywhere, we may under present circumstances truly say, *non progredi est regredi.*

We quite agree with a cotemporary, that the majority of medical men are heartily tired of the agitation to which the Medical Bills have given rise; and we believe that they would gladly accept of a moderate compromise. We wish it was in our power to say that some arrangement of this kind was in prospect. There are, however, numerous important questions, affecting the welfare of the nation, which demand immediate attention from the Legislature, and to these, one which relates only to a small section of the population, must give way. Before our next number appears some announcement will probably be made by the Home Minister declaratory of his final intentions.

### MIDDLESEX HOSPITAL.

THE following notice has been forwarded to us by the medical officers of the Middlesex Hospital for insertion.

In consequence of certain transactions with reference to the entrance of pupils, it has been resolved by the lecturers of the Middlesex Hospital School, that no pupil of Mr. Tuson's will in future be admitted to the School.

### LONDON HOSPITAL.

MR. GEORGE CRITCHETT has been elected Assistant-Surgeon to the London Hospital.

### APPOINTMENTS.

ON Wednesday last Dr. Leeson received the appointment of Physician to St. Thomas's Hospital, vacant by the death of Dr. Williams.

Dr. Cohen was at the same time elected to the office of Assistant-Physician.

### OBITUARY.

AT Naples, on the 18th of December, Dr. John Clarke, K.H. of Speddock, Dumfriesshire, and Deputy Inspector-General of Army Hospitals.

## Reviews.

*Lectures on the Nature and Treatment of Deformities, &c.* By R. W. TAMPLIN, F.R.C.S. Surgeon to the Royal Orthopædic Hospital. Fcp. 8vo. pp. 267. Longmans. 1846.

THESE Lectures have but recently appeared in the MEDICAL GAZETTE, and therefore do not require from us any lengthened critical notice. Orthopædic surgery is now taking its place as a new branch of the art; and as proofs of this, we may point to the establishment of institutions for the special treatment of deformities, and the appearance of distinct treatises on the subject. There are probably many in the profession desirous of making themselves acquainted with the most recent and approved principles of treating a class of diseases which have hitherto been considered to fall within the special domain of quackery. To them we can recommend these Lectures, which are here reprinted with numerous illustrations of the various kinds of deformities, and the apparatus required for their treatment. Mr. Tamplin has aimed at a practical development of his views, and in this he appears to us to have succeeded. The deformities of the foot, including the various kinds of talipes, are first treated; after these the various deformities of the knee-joint; and the work is concluded with an account of rachitis,—curvature of the spine,—wry-neck,—and contractions as they chiefly affect the upper extremities. The volume is neatly printed, in a form adapted for ready reference.

*Untersuchungen über die Zusammensegung des Blutes im gesunden und kranken Zustande.* Von A. BECQUEREL und A. RODIER, &c. übersetzt von DR. EISENMANN. Erlangen, 1845. Enke.

*Researches on the Composition of Healthy and Diseased Blood.* By MM. BECQUEREL and RODIER. Translated into German by DR. EISENMANN. 8vo. pp. 162.

THE substance of this little work appeared in the form of a series of papers in the *Gazette Médicale* for 1844: and we think Dr. Eisenmann, who seems to us to have very well performed his task, has rendered a service to his

countrymen by translating them into German. The researches of Becquerel and Rodier upon the blood are among the most recent which have been made; and they deserve more attention than they have hitherto received in this country. The whole subject is systematically investigated, and concisely treated. The first part contains some remarks on the general processes of analysis,—the second and third, comprising the bulk of the volume, furnish us with an account of the composition of healthy blood in the two sexes, and the alterations produced in it by various morbid conditions, illustrated by numerous tabulated results. The fourth part gives a general summary of the authors' researches, from which we learn that there are four conditions which modify healthy blood—sex, age, constitution and diet. Among these, the sexual influence is the most marked. A table informs us that in the male, the blood is of greater specific gravity than in the female; there is less water, but a greater quantity of red particles,—the albumen and fibrin being in about the same proportion. There is but little difference in the quantity of salts and iron, this metal being, however, according to the authors, in larger proportion in healthy blood, than we believe it has hitherto been found by other observers. Thus 1000 grammes of incinerated blood yielded of iron, in the male, 0·565, and in the female 0·541 gramme, or in round numbers about 1-2000th part. This result will not, however, strengthen the iron-oxidation theory of respiration.

We cannot follow the authors into the whole of their conclusions. Their results in many respects confirm what has been already ascertained by others. *e. g.* the increase of fibrin in the phlegmasiæ, the diminution of red particles in chlorosis, anæmia, and as a result of frequent venesection. The latter circumstance, however, was found to have but little influence on the proportion of fibrin. Lastly, the diminution of the proportion of albumen in Bright's disease. They also found that the quantity of red particles had been underestimated, and the proportion of fibrin over-estimated in healthy blood; and they have added many new facts to the chemical pathology of this important liquid.

The volume before us is not likely to circulate in England; but it is somewhat surprising, in this translating age, that the researches of Becquerel and Rodier have not appeared in an English dress.*

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*On Cataract, and its Appropriate Treatment, by the Operation adapted for each Peculiar Case.* By Charles Gardiner Guthrie. 8vo. pp. 127. London: Churchill, 1845.

There is a great discrepancy between the title and the preface of this treatise; for, in the former, it will be seen, that the work is professed to be the result of the labours of Mr. Charles G. Guthrie, but the latter informs us very differently, commencing with the announcement that,—"The following observations contain the substance of that part of the lectures on surgery, which have been for years delivered by Mr. Guthrie" (senior), "to the medical officers of the public service, and to the students of the Westminster and the Royal Westminster Ophthalmic Hospitals; as well as of those clinical lectures given by me at the hospital during the last winter, which relate to the treatment of cataract." This declaration is certainly fair and candid enough, but we do not altogether understand this "dual" mode of writing upon a practical subject. Were a medical work to be considered simply as a marketable article, manufactured (like an almanack or a directory), solely for the purpose of conveying certain matters of information, and to be bought and sold for so much, merely according to the value of its contents, without any reference whatever to the person who composed it, it would certainly signify little from whom the principles which it contained emanated, so long as they stood the test of examination, and conveyed the necessary amount of useful instruction. But, of course, this is not at all the case; professional writings must always be looked upon as evidences of the capabilities of their authors; and are, in nine cases out of ten, put forth in great measure with the intention of being so considered. The observations contained in a work on practical surgery must be taken as indications

* Some of the papers have been translated and published in our contemporary, the Provincial Medical Journal, but, so far as we know, they have not been collected and printed in a complete form in a single volume.—Ed. Gaz.

either of the industry, the acuteness of perception and observation, the subtlety in diagnosis, or the tact and success in operating of the writer personally:—it is a perfectly new thing to us that a continuous treatise upon any subject in operative surgery can be written by any two persons conjointly, and especially by two men of different ages, and different degrees of experience and standing in the profession.

We are here told that the substance of the lectures on cataract which Mr. Guthrie, senior, is in the habit of delivering (meaning by that, we apprehend, the whole of the material facts which that gentleman has observed with reference to the disease, during his long experience), is contained in this work; still the treatise is stated to be the production of the younger Mr. Guthrie, and most of the observations are made in the first person singular; Whose then are the larger number of these remarks? Of whose practical experience in the disease, of whose tact in diagnosis, of whose skill and success in operating, is this work to be considered the evidence? In short, supposing that we had a patient with cataract upon whom we declined to operate ourselves, (allowing that the contents of this work had convinced us very strongly of the capability of the writer), to which of these gentlemen should we send our patient to be operated upon—to the elder or to the junior Mr. Guthrie? for the former might, possibly, not be the author with whose observations we were so much taken, or the latter might, as probably, not have had any hand whatever in setting forward the good principles, except in giving a polish to the sentences in which they are conveyed. We cannot perceive that the work itself would be calculated to afford any clue whatever to our difficulty. As a matter of policy even, this kind of unequal partnership is bad: the younger writer is supposed—perhaps very erroneously, to have received all his best hints from the elder, and the authority of the latter's remarks is destroyed by the uncertainty with regard to the source from whence they sprung. Had Mr. C. Guthrie edited his father's lectures, and added his own observations in the form of notes, or had he given the results of his own investigations with quotations from his father's discourses, credit might have been given where it was really due; but this fusion of the two sets of lectures renders the authorship of the whole work altogether doubtful.

Mr. C. Guthrie's preface is a very short one, but it cannot be passed lightly over: we have disposed of the first moiety, and we must now make one or two remarks upon the remaining portion: we shall quote the author's own words.

"I have endeavoured to be explicit in enumerating the symptoms and appearances of each kind, and in the directions explanatory of the different operations most appropriate for them; with the hope that they cannot be mistaken by professional readers, whilst they are as far as possible divested of unnecessary technicalities, that they may be readily understood by every intelligent person desirous of becoming acquainted with this interesting subject."

Now, we must say, that all this is extremely objectionable: we are perfectly at a loss to conceive upon what grounds the author considers himself justified in proposing for his work such a destination as he alludes to at the end of the above sentence. There are some medical subjects upon which the members of the profession may be allowed, nay, are imperatively bound, as honest men and philanthropists, to address the public: well-timed and unassuming general advice upon the preservation of the health, and appropriate warnings against various popular customs and personal habits which tend to the detriment of life, may (with due limitation) be regarded as among the most truly useful of the physician's labours. The well-educated medical man is also generally the best expounder of the collateral sciences of botany, chemistry, natural philosophy, &c; he may perhaps also venture upon instilling a little physiology into the "million," but there he treads on perilous ground, and will be likely enough to prove how very easy it is to impart a "little knowledge" in such a way that it may become as dangerous a thing as it is possible to conceive. But it is altogether a new and unexampled thing, that a work treating of a subject in practical surgery should be addressed to the public, and be "as far as possible divested of unnecessary technicalities" expressly to suit their comprehensions. Whatimaginable benefit

can accrue to any non-professional person from becoming acquainted with the symptoms, diagnosis, and treatment of cataract? Can he, by such knowledge, prevent its accession in his own person, check its increase, or effect its cure by any other means than that with which every individual has been acquainted since the birth of our art—of applying to a surgeon for relief? Does the work before us convey any hints upon prophylactic measures, which (provided any were known) should, in humanity, be addressed to persons liable to this disease? Has it any section expressly devoted to the means by which patients suffering from partial opacities may best avail themselves of the degree of vision which remains to them, without employing medical assistance? Does it, in short, afford any two pages devoted to subjects an acquaintance with which could, in any way, tend to relieve the distress, mental or bodily, of a person suffering from cataract or from the operation for its removal? Certainly not. What other effect can the perusal of such a work as this have upon a patient, than that of filling his mind with false apprehensions and wrong impressions of his disease, and of making him, what no patient should ever be, one who has an opinion and a will in the management of his own case, equally to his own detriment and the surgeon's annoyance?

For our own part, we can scarcely imagine a greater vexation than having to treat a patient who had been studying these details of symptoms and operations for the last six months. Undoubtedly this pupil of Mr. Guthrie's would, at the outset, have formed a decided opinion as to the nature of his own disease, which would, almost as certainly, be utterly wrong, and we should inevitably have to undergo a categorical examination upon the subject; the correctness of our answers being tested by Mr. C. Guthrie's book (as interpreted by the quærist), every sentence we uttered being considered an evidence of absolute incapability if it did not perfectly agree with the standard of comparison. Supposing, however, that this trial were successfully passed, our tormentor would also be found to have his own opinion with regard to the manner in which he ought to be operated on, insisting that a soft cataract should be extracted, or that a hard lens required the operation for solution. He would be keenly aware, too, of every risk that could attend the operation, and continue to annoy us, and torture himself, with a hundred absurd fancies and groundless fears. Lastly, he would be haunted with a strong but indistinct idea of the many errors which the operator might commit; and, should vision be lost from any cross-accident, he would not fail to attribute the mistake to some bungling of ours, particularly to our having refused to adopt the plan which he "knew to be most suited to his case," and we should have fair reason to believe that, to the last day of his life, he would continue to inveigh against us with the most bitter exasperation as the wretch who deprived him of sight by extracting his keratonyxis without dividing the other nine-sixteenth of the hyaloid, or by some other error equally likely and intelligible. Heaven defend us from having to treat the diseases of book-taught amateurs in medicine and surgery! The whole tendency of such modes of addressing the public is simply this: a patient is enabled to discover that he is the subject of a particular disease, which requires an operation for its relief. Some surgeon must be consulted: who so proper a person as the author of the book, who has described the symptoms so exactly, who is so careful in his treatment, and who has been so successful in such a vast number of precisely similar cases? And here lies the whole explanation of these authors' anxiety to instruct the million. Mr. C. Guthrie may not have thought of all these things when he indited his preface, but it is to be regretted that he did not; and we would assure him, and all other writers upon subjects of this kind, that such a mode of procedure is alike calculated to do injury to their profession and their patients, and to reflect very serious discredit upon themselves.

With regard to the work itself, it is certainly a very complete and well-arranged collection of details upon the subject, conveyed in a clear and able manner; but it contains very few novel facts; and (considering the ample manner in which cataract is treated in most of the systematic works upon diseases of the eye) we do not at all perceive what hiatus in our surgical lite-

rature this volume is intended to fill up.

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*The London Medical Directory*, 1846. Small 8vo. pp. 270. London: Churchill.

This volume is a considerable improvement upon that which appeared last year. It is printed in a small and neat type, and, in addition to an increased list of names, it contains much useful information, indispensable to the metropolitan practitioner. Thus we find appended,—a medical obituary,—a list of medical referees of the Metropolitan Assurance Companies,—British and Foreign Bibliography,—the rules and regulations of the University of London,—of the English Colleges,—the Army, Navy, and East India Company's Medical Service,—an account of the London hospitals and schools,—of the various hospitals and dispensaries, with lists of their medical officers; and lastly, an account of the Metropolitan Medical and Scientific Societies, their times of meeting, &c. Information of this kind is obviously of great utility, and we must do the editors the justice to say, that they appear to have spared no trouble to make the Directory as complete as possible. We are glad to find that the names of some notorious advertising quacks are excluded, notwithstanding their possession of the title M.R.C.S. This is as it should be: the names of persons who thus disgrace their profession, should not be found in the same list with those of respectable men. We also observe, that the list of literary contributions furnished by the great majority of practitioners, has assumed a more professional character. Medical men must not rest their reputations upon their contributions to "Punch," "Bentley's Miscellany," the "Literary Gazette," &c. &c. Let the *famæ sacra fames* exist, but be confined within its legitimate sphere—medicine and surgery. The editors give some sensible advice upon this point in the preface, to which practitioners should attend. We consider this Directory a most useful companion, and therefore do not hesitate to recommend it to our readers.

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*Chemical Table of the Urine and Urinary Deposits.* By Dr. Brett. 1846.

Here is a neat little table, a *multum in parvo* of information on subjects which are now deservedly receiving considerable attention from the profession. In a recent number of this journal, we published a short paper entitled, "A Simple Introduction to the Clinical Chemistry of the Urine."* Dr. Brett has evidently had in view the same object as the writer of that paper, that is, to furnish a concise account of the most common morbid conditions of the urine. He has prudently abstained from entering deeply into the pathological chemistry of the subject: there is no more here than every practitioner even of what is now called the "old school" will readily understand, while there is as much information as will be sufficient for most persons engaged in general practice, who either want the leisure or the inclination to consult large and expensive works. The tabular form adopted by Dr. Brett, renders this compilation most useful for reference.

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## Proceedings of Societies.

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### SOUTH LONDON MEDICAL SOCIETY.

Jan. 8, 1846.

Edward Cock, Esq. President, in the Chair.

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Mr. Squires read the following case of abdominal disease. He was requested, some time since, about 9 in the evening, to visit a lady about 40 years of age: her symptoms were excessive prostration and great nausea, with occasional severe pain at the pit of the stomach, having existed only three or four hours. There was no abdominal tenderness, no fever, and the pulse was natural; a purgative enema brought away a large figured motion. Effervescing medicine and a mustard poultice to the epigastrium were ordered.

The next morning the symptoms were not alleviated; the tongue was clean. The epigastric pain continuing, 8 leeches were applied, the purgative enema repeated, and calomel, gr. i., with opium, gr. ¼, given every hour, and the warm bath. In the evening there was tenderness over the cæcum and ascending colon; and below the right hypochondrium a hardened tumor about the size of an egg could be felt. As this was now considered a case of impacted fæces, castor-oil was given. The following morning the pain and tenderness were general over the abdomen, and the pulse increased in frequency. Dr. Silvester saw the patient, and considered it to be a case of

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* Page 73.

peritonitis, arising from perforation: bleeding to ℥x.: blood buffed and cupped. The calomel to be continued with hyoscyamus, and in the evening bleeding repeated to ℥vj. The day after 18 leeches were applied to the abdomen, and some aperient medicine given, but without relief, the patient dying on the 5th day from the attack.

On examining the abdomen two days after death, there was considerable effusion of lymph on the peritoneum, and fluid bile among the intestines. The gall-bladder was felt containing calculi; partial adhesion had taken place between it and the transverse arch of the colon, and an opening produced by ulceration. The adhesion had given way, and allowed the escape of bile into the peritoneal cavity. There were 30 calculi, varying in size from a pea to a marble, in the gall-bladder, from which no symptoms had arisen before the attack.

The author then remarked that nature was performing her work to allow of the transmission of the calculi; and as the inflammation was reparative,—had there not been too much depletion, thus checking the reparative powers, which otherwise might have gone on to recovery?

Dr. SILVESTER remarked on the rareness of the case, and considered the bleeding cautious, and called for. The absence of pain or uneasiness with so many calculi present was singular.

Mr. HILTON remarked that it was important to know when the effusion of bile took place. He thought before the bleeding was performed; he considered the symptoms were caused by the breaking down of the adhesion, and the subsequent effusion producing collapse, which was so characteristic of the absorption of a poison like bile into the system.

Mr. SQUIRES again expressed his opinion that no mechanical pressure or cause had separated the adhesion, but that by the depletion nature's objects had been defeated.

Dr. BARLOW, in reference to the diagnosis of the tumor, considered the calculi alone could scarcely be felt, unless there also existed some obstruction of the gall-bladder. He alluded to a case where no symptoms occurred, and 60 calculi were discovered; referred also to the caution required in the use of depletion and purgatives, also in the exploration of the patient.

Mr. OWEN alluded to a case mentioned by him to the Society, last session, in which calculi had passed into the duodenum, and lodging in the small intestines had brought on fatal obstruction. He considered that tympanitic distension, so often present, prevented the calculi being felt in the gall bladder.

Dr. ALDIS thought that the depletion was judicious.

Dr. CHEVERS related the case of a patient who died of strumous disease of the knee-joint; and after death a calculus as large as a cob-nut was found in the gall bladder, and yet there had been no symptoms during life. His opinion was, that effusion took place before the patient was first seen, that peritonitis did not occur until 5 or 6 hours after; in such cases the shock was often so great that the patient died before peritonitis ensued. He alluded to Drs. Graves and Stokes' opinion of treating such cases by large doses of opium, and thought in this case it might have been useful. He had found that effusion of bile was less fatal than effusion of any other fluid except blood.

Dr. HUGHES agreed that the symptoms were those of effusion from the first.

Dr. SILVESTER was of opinion that the bile had escaped gradually by oozing, as it had assumed an arborescent appearance.

The opinion of the members generally on this interesting case, was that perforation and consequent effusion had taken place at the first onset of the symptoms.

The Society then adjourned.

At the next meeting, Jan. 22, Mr. W. Kelson Wright will read "Two Cases of Enteritis with Obstruction of the Bowels."

## Selections from British and Foreign Journals.

### ON THE DETECTION OF PUS IN THE BLOOD AND OTHER ANIMAL FLUIDS. BY J. F. HELLER.*

IT has hitherto been a matter of considerable difficulty to recognize the existence of pus in the blood; indeed it is still doubted by many whether pus cells do really circulate as such in the blood. Probably this difficulty will account for the discrepant accounts given by writers on the subject, some of whom state that the existence of pus in the blood is indicated by the peculiar aspect and qualities of this fluid, others by its microscopic characters, without however the pus cells being actually seen. The quantity of pus in the blood must be enormous: when in a single drop of this fluid, taken from the 20 to 30 pounds existing in the body, we are enabled to detect its existence beneath the microscope. Therefore from such a mode of examination no certain results can be expected, and no conclusions, *pro* or *con*, can be drawn.

Two cases having occurred to Heller, in which the blood contained a very large quantity of pus, he took advantage of the opportunity, and performed a number of experiments in reference to the detection of

* From Heller's Archiv für Chemie ued Microscopie, Heft 4. 1845.

pus, and obtained from them some decided results.

He found that if there is only a small quantity of pus contained in the blood, this fluid presents few or even not any peculiarities which can be ascribed to the presence of pus. The more pus there is in the blood, by so much the more is the quantity of fibrine diminished; indeed, if the quantity of pus be very large, the fibrine disappears entirely, so that not a trace of it can be found in blood drawn from a vein by venesection. In such a case there are observed, after death, unusually large deposits of fibrine in the great vessels and in the cavities of the heart. He noticed that when blood containing pus is entirely deprived of fibrine, the blood corpuscles subside sooner than the pus cells, so that these latter form above the blood corpuscles a dirty-white flaky layer. When the quantity of pus in blood drawn from a vein has been large, he has observed the layer of pus cells which has formed above the sediment of blood corpuscles, to be sometimes as much as a line in thickness. Upon examining a portion of such a layer beneath the microscope, there could be no doubt about the presence of pus. When there has been sufficient fibrine remaining to form a clot, he always observed the pus in the uppermost layers of it; but if no real clot formed, then, as above stated, the pus was found in the uppermost layers of the sediment of the blood corpuscles. From these experiments, and from others which he performed by mixing very small portions of pus with large quantities of blood corpuscles, Heller came to the conclusion that the smallest quantity of pus may be detected even in a large quantity of blood. The detection of pus in the blood depends, 1st, on the perfect separation of the pus also from the blood, by mechanical means; 2nd, on the microscopic examination of the separated pus cells. All chemical re-agents which can be employed for the detection of pus lead to no decided result. The mechanical separation of pus cells from the blood may be detected, by means of distilled water, in the following manner:—The suspected portion of blood is first allowed to coagulate, then the scum is to be removed, and the uppermost layer of the clot to be sliced off with a knife, mixed with distilled water, and then strained through a linen cloth in order to separate the fibrine: to the strained fluid distilled water is to be added, until all the blood corpuscles are dissolved. The whole fluid is then to be left at rest for one more hour in a tall narrow glass cylinder, at the lapse of which time we find a sediment formed, which (provided all the red corpuscles have been dissolved) consists of pus cells with chgle corpuscles (or pale corpuscles of the blood). The supernatant fluid is now to be drawn off, and the remaining sediment to be washed with distilled water, and then poured into a stiil narrower glass cylinder, or still better, into a small test-tube, the calibre of which is about one-third of an inch in diameter; this is left at rest until the pus cells have again subsided, and the supernatant water appears quite clear; this clear fluid is then to be poured off, and a drop of the sediment placed beneath the microscope, when the pus cells will distinctly be seen, especially after the addition of acetic acid, whereby their nuclei are rendered more apparent. It is impossible to confound these cells with chyle corpuscles, which never possess nuclei, and are always much smaller than pus cells, which latter Heller states he has constantly found in the blood, of considerable size, and great distinctness.

By the above process, Heller states that from a pound of blood pus may be collected to the amount of several drops, and that we may constantly in this way detect with perfect certainty the existence of pus in the blood, or determine its complete absence. If no pus cells are found in the upper strata of the clot, we may experiment with the whole clot in the way above mentioned, namely, by gradually dissolving successive portions of it in water, and then straining through a coarse linen cloth to separate the fibrine. Also, when we have the opportunity, as after venesection, we may free the blood from fibrine by stirring, allow the blood-corpuscles to subside, then gradually add water to the sediment of blood-corpuscles, and continue the process as above directed. Heller states his impression to be, that the presence of pus in the blood cannot be determined in any other way with greater certainty than by the above process, even although it exist in a tolerably large quantity. He promises hereafter to speak of the influence which the presence of pus in the blood exerts on the fibrine, contenting himself at present with observing, that the detection of pus in the blood, which he has been able with certainty to determine, proves unquestionably that pus cells may circulate as such in the blood.

In order to detect pus in urinary sediment, in sputa, and in other animal fluids, the best way is to procure a careful mechanical separation of the pus cells, to collect them into as small a space as possible, and then to examine them beneath the microscope. Thus, for instance, in a case of suspected pus in the urine, the tenacious slimy sediment is to be agitated in distilled water, and the fluid then allowed to remain at rest in a tall narrow glass-cylinder, in order that the pus cells may subside, after which the supernatant fluid is to be drawn off, and a small portion of the sediment examined beneath

the microscope. It must be remembered that the water in which the sediment has been washed, as well as the urine itself, or other fluid, in which pus is contained, may be albuminous, although perhaps only a trace of albumen may be found; and the greater the quantity of pus present, so much larger will be the amount of albumen: albumen is an ingredient of the liquor puris as well as of the contents of the pus cells.

### SUDDENLY FATAL ISSUE OF CERTAIN CASES OF INSANITY.

The termination of mania is sometimes of a most disastrous kind. Maniacal patients not very unfrequently die *suddenly*, after exhibiting a state of furious agitation for a period varying from two or three days to three weeks. According to M. Scipion Pinel, these patients are the victims, "not, as is even still said, of nervous apoplexy, but of the extreme degree of development of violent cerebral congestion, of per-acute encephalitis, suddenly arrested during its period of greatest intensity." In another class of cases, the termination of the malady, though equally fatal, is less abrupt. The maniac, after months, or it may be years, of violent excitement, becomes suddenly quiet and silent; a few days after this change, decomposition of the features takes place; the skin becomes dull and yellow-coloured, the eyes lustreless and fixed; the whole system appears deeply affected. Death follows in a few days, preceded by stupor and paralysis. In such instances, the state of congestion is found to have passed on to actual softening, or even purulent infiltration.—*M. S. Pinel on Cerebral Pathology; Brit. and For. Med. Review.*

### CAUSES OF CRETINISM.

Dr. Roesch (Gazette Méd. de Strasbourg, Nov. 1842) having been ordered, by the government of Würtemburg, to inquire into the causes of cretinism, examined 3000 cretins in different localities, where the disease was endemic. The following are the more important of the conclusions at which he arrived:—1. Cretinism is sometimes sporadic, but in certain localities it is endemic. 2. It is hereditary, with the ordinary laws and exceptions to which hereditary diseases are subject. 3. The conditions for its development are hereditary predisposition, and the action of certain influences on the parents (such as want of sufficient food, unwholesome habitations, excessive labour, and debauchery), and accidental causes acting on the child, during the period of its physical and intellectual development. 4. These accidental causes are certain atmospheric and geological conditions peculiar to certain localities. Impregnation of the water with gypsum or lime, or melted snow, appeared to Dr. Roesch to exert no evident influence, for he met with cretins where the water was quite pure. But humidity of the air, he thinks, plays an important part. Cretinism is never endemic in plains, or on elevated "plateaux," whilst it is found in valleys, and "bas fonds" abounding in moisture. It does not exist in cold countries, where sudden variations of temperature are rare. All the localities in which it is endemic agree in being humid, foggy, and exposed to sudden changes of temperature, often very hot in the middle of the day, and cool, or even cold, in the morning and evening. Goitre constantly accompanies cretinism, is indicative of it, and is developed under the same conditions. These views of Dr. Roesch correspond exactly with those of M. Murchand, published in his inaugural thesis of 1842.—*Dr. Bennett's Report on the Progress of Pathology, &c., Brit. and For. Med. Rev.* July 1845.

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## ETIOLOGY.

### M. CHEVALLIER ON THE OCCUPATIONS OF THOSE WHO ARE MOST EXPOSED TO METALLIC COLIC. (COLICA PICTONUM.)

Authors, it is well known, differ considerably from each other respecting the occupations or trades which render men most liable to attacks of colic. Out of 1330 cases received into the Parisian hospitals, during a period of five years from 1838 to 1842, M. Chevallier constructed the following table respecting the relative liability of workmen of different trades.

| | |
|---|---|
| Workers in white lead | 841 |
| Painters | 310 |
| Type manufacturers | 33 |
| Colour preparers | 29 |
| Workers in metals | 22 |
| Pottery manufacturers | 11 |
| Casters | 6 |
| Gilders | 4 |
| Polishers | 4 |
| Glassmakers | 3 |
| Varnishers | 2 |
| Jewellers | 2 |
| Enamellers | 2 |
| Chasers | 1 |
| Turners | 1 |
| Chemical manufacturers | 1 |
| Lapidaries | 1 |

Among 57 journeymen the occupations were not ascertained. In addition to the above, Weavers are subject to lead colic, from the circumstance that they are compelled to handle the leaden cylinders which are used for stretching the threads.

The table shows, that white lead workers are most exposed to this disease. The 341 cases came from six factories in the short period of only five years, and of these 55

proved fatal. It is impossible to institute a fair comparison with respect to other occupations, since the number of workers thus employed is unknown. It will be observed that the workers in metals chiefly of copper and its alloys, or of lead in the metallic state, are but little subject to metallic colic. In fact, during a period of five years, only 22 were received into the Parisian hospitals, although the number of workmen employed in this occupation is very large. It will be perceived that the workers in other trades are very little subject to the disease.—*Gazette Médicale*, Janvier 17, 1846.

## TOXICOLOGY.

### ATTEMPTED POISONING BY ŒNANTHE CROCATA.

Cases of criminal poisoning by the narcotico acrids are not very common; the following is therefore interesting.—

A miller accused his wife, a woman of bad character, of an attempt to poison him by giving him the root of the œnanthe crocata (hemlock water-drop-wort) in his soup. He suspected that there was something wrong, because the root was undressed, and had a very acrid taste. The complainant handed over to the authorities some of the root similar to that which had been put into the soup. This was submitted to the examination of MM. Malaguti Poutalie, and Toulmouche. At the trial, M. Toulmouche declared that the roots were those of the œnanthe crocata, of the family Umbelliferæ; that this plant is classed by Orfila among the narcotico-acrids, and that it may cause death in two or three hours. On this evidence the prisoner was condemned to ten years' labour at the gallies.—*Gazette Medicale*, Jan. 1846.

Remarks.—The root of this plant is one of the most active among the common vegetable poisons. It has been known to destroy life in less than an hour. It has often been fatally mistaken for the root of the parsnip. According to Dr. Christison, the œnanthe which grows in Scotland is not poisonous.

## FORENSIC MEDICINE.

### ABORTION PRODUCED BY THE INJECTION OF AN IRRITATING SUBSTANCE INTO THE VAGINA.—DEATH OF THE FEMALE.

During the last summer, the commissary of police of Strasburg was informed that a young female had died suddenly, under the use of substances which it was supposed had been administered for the purpose of procuring abortion. A post-mortem inspection confirmed this suspicion. The abdominal viscera were found in a state of violent inflammation, and the intestines were gangrenous. These appearances were attributed to the employment of some corrosive and irritant substance which had been applied to the vagina; and the conclusion was, that the deceased had died from the effects of abortion artificially induced. M. Gerhardt, who had attended the deceased, stated, that when he was first called, the symptoms led him to suspect that there had been some criminal attempt to procure abortion. Deceased admitted that a female had given her some substance which had excited violent pain. Delivery took place the day following, and in a few days afterwards she died.

The nature of the substance used as an abortive could not be determined; but it was clear, from the effects observed, that it possessed corrosive properties, and that it had led to the death of the deceased. The prisoner was convicted upon the evidence, and condemned to ten years' imprisonment. —*Gazette Médicale*, Jan. 1846.

As this is a novel method of inducing criminal abortion, it is proper that the facts should be recorded. Although none of the substance employed (which was probably a mineral compound) could be obtained for analysis, there was no reason why the tissues should not have been examined. — Ed. Gaz.

## PATHOLOGY.

### SYMPTOMS OF IMPACTED BILIARY CALCULI.

M. Duparcque (Revue Médic. April, 1844, p. 506), considers clonic spasms of the right hypochondrium, extending down the side and followed by convulsive movements of the muscles, pathognomonic of impacted biliary calculi. In four cases out of thirteen, in which retention of bile was produced by this cause, the above symptom was present, and he has met with it in no other disease. His remedy (Durand's) is a mixture of ol ricini and æther.—*Dr. Bennett's Report, Brit. and For. Med. Rev.*

### PYROSIS.

A case of pyrosis occurring periodically in a young girl, æt. 12, is recorded by Dr. Eitner, (Medicin. Zeitung, Feb. 22d, 1843). The fluid was discharged with great force by sudden vomiting, and in enormous quantities. It appeared to collect gradually in the stomach, when pain and suppression of the epigastrium occurred, which were relieved by vomiting. The disease gave way speedily to a mixture containing extract of quassia, with laurel water and carbonate of potash, a camphorated ointment with laudanum being rubbed over the stomach.—*Dr. Bennett's Report on the Progress of Pa-*

*thology, &c.; Brit. and For. Med. Review*, July, 1845.

### HYDATIDS IN THE SPINAL CORD AND NERVES.

KLENCKE has found that every species of hydatid has its habitat in the spinal cord and nerves, and may cause a corresponding disorder of the function. He has often detected encysted acephalo-cysts, echinococci, and cysticerci in particular nerves, causing a neuroma hydatidosum, and inducing atrophy.—*British and Foreign Med. Review.*

### CYSTIFORM TUMOR OF THE OMENTUM.

AT a late meeting of the Sheffield Medical Society, the President related the particulars of a case which had been forwarded to him by Mr. W. C. Russell:—

A female, aged 46, of light florid complexion, and sanguineous temperament, had borne four children, and been a widow four years, was seen by Mr. Russell, Oct. 29, 1844. Menstruation had been regular up to two months previously. She had not felt well since last March, up to which period her health had been good. She attributed the commencement of her illness to having used violent exertion while attempting to rescue a child from danger, when, in stooping suddenly after running she felt something give way at the pit of the stomach. She became very faint, and pain ensued, which has since continued more or less. She had no medical aid at the time. In three months after she observed her body to increase, and suffered from a sense of fulness, with great tenderness on pressure at the pit of the stomach. In September she had married again. Her symptoms increased.

When seen (Oct. 29th), her countenance expressed extreme anxiety; her limbs and chest were much emaciated. She was lying on her back, with her shoulders raised, and her legs drawn up. Breathing laboured; no power of turning to either side. The abdomen fully distended, and there was great soreness on pressure, especially between the umbilicus and the ensiform cartilage. The integuments of the lumbar region and the lower extremities were anasarcous; pulse 130 to 140, sharp; urine, four ounces in twenty-four hours, turbid, milky, with phosphoric odour; the albuminous tests produced no effect; bowels had been much constipated; mammæ completely absorbed; no trace of pregnancy per vaginam.

On the 2d of November, the symptoms, in spite of the treatment, were so urgent that the operation of tapping was resorted to, when two gallons of fluid, containing plates of lymph and pus, were evacuated. The relief was very great. A large tumor was then distinctly traceable, occupying the whole space from the umbilicus to the ensiform cartilage, filling the left hypochondriac region, and extending down to the crest of the ilium. It was firm, but pressure gave great pain, and the lower margin was irregular.

On the 26th of November, the fluid had again accumulated, and she was again tapped, when about the same quantity was evacuated. The tumor had much increased; legs much more swollen.

December 20th.—The cicatrix formed after the last tapping gave way, and a similar quantity of fluid escaped. Constitutional disturbance much greater; breathing more laborious; cough troublesome; pulse much weaker; skin hot; legs more swollen, and very cold. In about three days inflammation appeared, first in one leg, and then in the other, and then in both feet. The pain was very great, and in order to relieve the tension, incisions were made, which afforded ease for the time; but mortification ensued in both legs and feet, and she died on the 3d of January.

*Post-mortem about 24 hours after death.*—On laying open the abdomen, the peritoneum was found to be much thickened throughout, and very extensively adherent. An immense tumor occupied the place of the greater omentum, extending into the right and left hypochondriac regions, from the ensiform cartilage downwards as far as the umbilicus, and backwards so as to press upon the large abdominal vessels. Its upper surface was smooth, and free from ulcerations, but contained several encysted tumors about the size of pigeons' eggs. In the folds of the omentum there were three or four cysts, containing serous fluid. The lesser omentum was much distended with fluid, filling up the greater portion of the right hypochondrium. That part of the tumor which extended into the left hypochondrium consisted of a number of large blood-vessels, resembling in appearance an expelled placenta. The inferior surface was covered with coagulated lymph, from which pus had been very plentifully secreted. The tumor was contained entirely in the folds of the omentum, and had no other attachment. It weighed upwards of ten pounds. With the exception of the transverse arch of the colon, which was much contracted, the alimentary canal was normal. The liver, spleen, pancreas, and kidneys were small and flabby, otherwise not unhealthy. The uterus was vascular, but not impregnated. There was an indurated tumor, about the size of a chesnut, in the left ovary. The chest contained between two and three pints of fluid. Lungs and heart not examined.—*Provincial Medical and Surgical Journal.*

## Correspondence.

### ON CORONERS' INQUESTS.

Sir,—Having read your excellent remarks on Coroners' ignorance of medical subjects, in Friday's Gazette, I am induced to send you the particulars of two cases that occurred here a short time back in the court of a medical Coroner, as I believe that they will afford you a proper text to address some observations to those of our profession who are or may become Coroners.

A young woman, æt. 20, of loose habits, was seized in the street with a fit; she was at once seen by a surgeon's assistant, who removed her in a cab to the Union-House in articulo mortis. The surgeon of the house saw her on her arrival. An inquest was held, no evidence taken, but the coroner addressed the jury *sic:* "I attended her (he holds a Union appointment) two months for inflammation of the heart, and I give you my professional character that she died of morbus cordis."—Verdict accordingly. I viewed the body after the inquest, accompanied by the surgeon of the Union-House. The chlorotic appearance was almost alone sufficient to negative the idea of heart disease. We examined the body with the following results.

Heart and pericardium quite healthy; brain highly vascular; effusion into the ventricles, the remains of an old extravasation just at the junction of the occipital and two parietal bones.

On subsequent inquiry we found that in a scuffle in London, eighteen months before, she had been beaten on the back of the head with an umbrella, and thrown down stairs; and from that moment up to her death had been subject to fits. It is not impossible that had the beating occurred under circumstances that would have allowed the individuals to be got at now, a charge of manslaughter might have arisen.

In a fortnight after the above case a child was very severely burnt. The Coroner was family attendant, and of course was sent for; the case progressed favourably for a week, but at the end of that time hæmorrhage from the stomach or duodenum came on, and the child died. An inquest was held; no post-mortem examination was made or suggested. The Coroner told the jury that the hæmorrhage was not at all connected with the burn; that he had had many cases of hæmorrhage in his practice lately; and in accordance with his directions the jury returned a verdict of natural death.

His excuse for not examining medical witnesses is on the score of expense, and to preserve what he terms (however incorrectly) the popularity of his office.

I send you my address. The Coroner knows my opinions on the subject, and as I have spoken to him privately, or rather, in his private capacity, on the injustice thus done to our profession, and finding remonstrance of no avail, I give you a sketch of the above cases through a county paper, to point out to the rate-payers the slight gains that could be expected from bad law. I have not spoken from private or personal motives, as I have nothing to do with inquests at any time.

May I ask your opinion on the following case? A man was ran over by a two-horse waggon, containing a few sacks of corn. The Coroner's jury returned a verdict of accidental death, with a deodand of 1s. upon the horses and cart. The Coroner refused to receive this verdict until they altered it to 1s. upon each horse, another upon the cart, and a fourth upon the corn. To support his opinion, he half quoted a similar case from some law-book, when a verdict similar to the first was returned; and on application to a Judge to quash it, on the ground that a verdict similar to No. 2 should have been returned, the Judge refused, as he considered No. 1 correct.

In defiance of all this he made the jury alter their verdict, on the ground that he would so frame his verdicts that no application could be made to disturb them. If the deodand involved a large sum of money I should think that on such a verdict it could not be recovered.

Inquisitor.

Colchester, Jan. 12, 1846.

Remarks.—Unfortunately there are no rules except those arising from a sense of propriety to determine the mode in which an inquest should be conducted by a medical Coroner. Medical men, who hold this office, should be especially cautious that they do not furnish an argument to those who consider that the duties can only be properly performed by lawyers. In the first case, so far as we can judge from the details furnished by our correspondent, an inspection of the body should have been ordered. The result showed that the coroner was entirely mistaken in his opinion respecting the cause of death. In the second case, although there is no legal rule on the subject, we think it highly improper that a medical coroner should hold an inquest upon the body of one whom he has previously attended as a patient! What is to prevent a man in such a case from concealing his own malapraxis? Assuredly conduct like this must be regarded as "a heavy blow and a great discouragement" to the appointment of *medical* coro-

was once severely reprimanded by a judge for prosecuting at the assizes, a female, whom, in his capacity of coroner, he had previously committed for child-murder. Such a procedure was, to use the mildest language, indecent. If, in any case, it were proved that a patient had died through neglect or maltreatment on the part of a medical coroner, who at the inquest had directed the jury to return a verdict of "natural death" upon his own patient, this functionary would not only expose himself to severe censure for so flagrant an abuse of his office, but would probably lead to its passing entirely out of the hands of medical men. We have been informed that a medical practitioner, who acted as coroner in one district, inspected a body, and undertook the duties of a medical witness, in an adjoining district. There is nothing illegal in this, but it is decidedly, in our opinion, indecent, and is liable to give rise to this abuse,—that two medical coroners may in this way play into each other's hands, absorbing the fees as judges and witnesses, and at the same time placing a most charitable interpretation upon any unfortunate results which may attend their own practice as medical men!

There is a prospect of this office being reformed under a clause in the Health of Towns' Bill. The coroner should be paid by a fixed salary sufficiently liberal to render it unnecessary for him to practise. When this improvement is effected the office should only be filled by men who have received a good medical education, bearing especially upon the duties which they will be required to undertake.

The law regarding *deodands* is in a somewhat unsatisfactory state. There is scarcely a deodand which is worth disputing, which is not set aside on appeal to the superior Courts. The technicalities which may vitiate the proceedings at inquisitions are very numerous; and notwithstanding the uniform assumption of *superior* legal knowledge, they are as little understood by *legal* as by medical coroners. The rule of law we believe is, "*Omnia quæ movent ad mortem sunt deo-danda.*" It has been held that if a person be killed by the wheel of a cart in motion, the cart, horses, and loading, are forfeited, because the weight made the wound more dangerous. We do not find, however, that a special deodand is directed to be levied on each chattel. The whole are forfeited, and we presume that a general deodand would in the case related by our correspondent, have fulfilled the purposes of the law. It appears to us that it would have been as appropriate to put it upon the harness of each horse, as to subdivide the deodand in the way the coroner is alleged to have done on this occasion. A proposition was made last session to abolish deodands by statute; and it is not improbable that before long some measures will be adopted to remove the defects and inconsistencies which are acknowledged to exist in the present state of the law.—Ed. Gaz.

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COMPLICATED CASE; PARTIAL PLACENTA PRESENTATION; ENLARGED PLACENTA; INFLAMMATION OF THE LEFT SAPHENA VEIN.

Sir,—I beg to transcribe the following case from notes taken at the time, which to me as the medical attendant was one of peculiar interest, and presents features which I think worthy the attention of the profession. I therefore submit it to your consideration whether it is worthy of occupying a portion of the columns in your journal.

Mrs. B. æt. 26, a healthy woman, married, mother of one child, aged two years: on the 20th Sept. after a hard day's work (washing), was attacked with pain in her legs extending up the thighs to the back, which she attributed to standing all day over the wash-tub. Previous to her going to-bed she bathed her foot, when she noticed that her feet and ankles were much swollen, and very painful to the touch; during the night she suffered from pain in the abdomen and back, followed by a profuse discharge of florid blood from the vagina. On the morning of the 1st of October, I visited her in consequence of the flooding continuing; she said she was not aware that she was pregnant, catamenia having appeared about six weeks previously. Upon making an examination per vaginam, the os uteri was situated very high up, scarcely to be reached with the finger, was much thickened, puckered, and protruding: by the application of cold, plugging the vagina, and a dose of opium, the hæmorrhage was arrested. Upon examining the legs, the left was much swollen and painful, especially along the course of the saphena vein; that vessel as it passes along the inner side of the knee was hard and much thickened; the integuments around it had a blush of redness, and the absorbents could be traced up the thigh in bright red streaks, as also could the vein, feeling hard and knotty, as far as the saphenic opening: the foot, ankle, and calf of the leg were œdematous; there was much constitutional disturbance; hot parched skin; tongue dry; thirst; pulse quick, 128, rather small in volume; leeches were applied, followed by fomentations of belladonna, poultices, cal. et opium, and saline medicine was administered internally. In the evening there was a return of the hæmorrhage, which was again arrested; to her other symptoms was added, constant sickness of the

stomach: to continue her pills and have effervescing saline draughts. On the morning of the 2d there was again flooding; little or no alteration in the state or position of the os uteri; much fever; a very anxious expression of countenance; leg much swelled and painful; urine scanty, high coloured, and attended with pain when voided: visited her again during the day, a constant trickling of blood from the vagina; has suffered from pain in the back and abdomen; is very restless: made another examination per vaginam, renewed the plugging, which seemed to stop the bleeding. On the evening of the 2d no further hæmorrhage; says she feels very weak, and is much dispirited; leg and thigh much as in last report. 3d Oct. no further hæmorrhage; wishes to have the plug removed, which was done; no further escape of blood; much pain and restlessness. During the 4th and 5th there was very little change, nothing worthy to remark. On the morning of the 6th, seven o'clock, was hastily summoned to her; she had during the night frequent pains in the abdomen and back; hæmorrhage had returned. Upon examining the state of the uterus, the neck had descended into the vagina; the os now could be easily reached: upon endeavouring to pass the finger into its cavity a strong expulsive pain came on; a gush of hot arterial blood took place; she speedily became faint, but rallied after taking a little brandy: during her temporary collapse the os uteri became flaccid, and dilated to the extent as to admit the fingers freely, when a thick yielding mass was felt, which the finger easily passed, and discovered the head of a small fœtus. Stimulants were then given, with two drachms of the tincture of secale cornut.; a second dose was administered, when sharp labour pains set in, and very quickly a small male fœtus was aborted alive, and continued to live for twenty minutes, during which time respiration continued, and once or twice there was an apparent effort to cry. Ten minutes after the birth of the fœtus, strong pains again came on, which expelled the placenta, a huge mass, and which judging of the size of the uterus must have been attached throughout its whole surface; it presented no unnatural appearance with the exception of its great size; one edge of it was dark coloured, and covered with clots of black coagula, to the extent of nearly three inches; the greatest diameter of the placenta was eleven inches, and its shortest nine inches; the weight of it was exactly eighteen ounces; the funis was thin, about twenty inches in length; the membranes were extremely thin, and contained very little fluid; the length of the fœtus was nine inches, and weighed exactly 16 ounces, it was well formed; the eyelids perfectly closed and were with great difficulty separated, when the membrana pupilaris was visible; the nails on the hands and feet were nothing more than soft cuticle with a highly vascular membrane beneath. I mention these particulars of the fœtus that some idea may be formed of its age. I need not prolong the report of Mrs. B.'s case, further than to say, after the fœtus was expelled all hæmorrhage ceased, and she gradually recovered. She is now in the enjoyment of excellent health; the vein in its course up the leg and thigh is thickened, but she suffers no inconvenience from it.

Remarks. — It appears strange that a woman should be so far advanced in pregnancy and never suspect it: the appearance of a discharge which she supposed to be the catamenial fluid, six weeks before she aborted. The case is also interesting in that after partial separation of the placenta and the loss of so much blood the fœtus should be alive, the early period at which the offspring can sustain life when all maternal intercourse is cut off, the early period at which the lungs permit the air to permeate them, and they perform their office. The further proof of the connection between the placenta and the walls of the uterus, and the source of uterine hæmorrhage; the rigid state in which the os uteri remained for several days, notwithstanding the great loss of blood, how speedily it became flaccid and dilated when faintness supervened; the great size of the placenta, which no doubt tended to preserve the fœtus; the appearance of the surface that had become detached; the happy effect of the secale cornutum in stimulating the uterus to contraction, that its use is not necessarily destructive to the child; and, lastly, how far the inflammation and obstruction in the veins of the leg caused the separation of the placenta from the walls of the uterus.

I am, sir,
Your obedient servant,
A. J. Simking, M.R.C.S.E.

Alstonfield, Staffordshire,
Jan. 6th, 1846.

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### HYPOTHESES.

Hypotheses with respect to theories, are what presumed proximate causes are with respect to particular inductions: they afford us motives for searching into analogies, grounds of citation to bring before us all the cases which seem to bear upon them, for examination.—*Herschel.*

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *Jan.* 15.—William Skaife Gibson, Dublin.—Fred. Augustus Crisp, Orford, Suffolk.—John Cowburn.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, Jan.* 10.

| BIRTHS. | | DEATHS. | | *Aver. of 5 yrs.* | |
|---|---|---|---|---|---|
| Males.... | 650 | Males.... | 504 | Males.... | 493 |
| Females . | 600 | Females . | 468 | Females . | 474 |
| | 1250 | | 972 | | 967 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 153 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 162 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .....(Pop. 374,759) | 176 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar.....(Pop. 393,247) | 180 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich (Pop. 479,469) | 301 |
| Total ..... | 972 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Winters; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| | ALL CAUSES ..... | 972 | 1080 | 967 |
| | SPECIFIED CAUSES ..... | 968 | 1073 | 961 |
| 1. | *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 201 | 183 | 188 |
| | *Sporadic Diseases*, viz.— | | | |
| 2. | Dropsy, Cancer, &c. of uncertain seat ..... | 78 | 115 | 104 |
| 3. | Brain, Spinal Marrow, Nerves, and Senses ..... | 150 | 169 | 157 |
| 4. | Lungs, and other Organs of Respiration ..... | 308 | 363 | 294 |
| 5. | Heart and Blood-vessels ..... | 46 | 30 | 27 |
| 6. | Stomach, Liver, and other Organs of Digestion ..... | 73 | 69 | 72 |
| 7. | Diseases of the Kidneys, &c... | 11 | 7 | 7 |
| 8. | Childbirth, Diseases of the Uterus, &c. ..... | 12 | 12 | 10 |
| 9. | Rheumatism, Diseases of the Bones, Joints, &c..... | 12 | 7 | 6 |
| 10. | Skin, Cellular Tissue, &c. .... | 2 | 2 | 2 |
| 11. | Old Age ..... | 48 | 90 | 67 |
| 12. | Violence, Privation, Cold, and Intemperance ..... | 27 | 27 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 9 | Convulsions .... | 40 |
| Measles ..... | 48 | | |
| Scarlatina ..... | 20 | Bronchitis ..... | 72 |
| Hooping-cough.. | 49 | Pneumonia..... | 89 |
| Typhus ..... | 10 | Phthisis ..... | 96 |
| | | Dis. of Lungs, &c. | 16 |
| Dropsy..... | 4 | | |
| Sudden deaths .. | 3 | Teething..... | 12 |
| | | Dis. Stomach, &c. | 3 |
| | | Dis. of Liver, &c. | 11 |
| Hydrocephalus .. | 33 | | |
| Apoplexy..... | 22 | Childbirth ..... | 6 |
| Paralysis..... | 23 | Dis. of Uterus, &c. | 5 |

REMARKS.—The total number of deaths was 108 above the autumnal and 5 above the annual average. The deaths from Zymotic diseases, with the exception of Measles and Hooping-cough, were below the averages. The mortality from Measles has abated; that of Hooping-cough was but little above the winter average. In the South district only, the mortality was above the winter average. In all the others, it was below both averages.

### ROYAL OBSERVATORY, GREENWICH.

## METEOROLOGICAL SUMMARY

Mean Height of Barometer .....30·2
„ „ Thermometer[a].....40·8
Self-registering do.[b] ..... max. 48·8 min. 21·
„ in the Thames water. — 41·8 —

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·07: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was 4·8° above that of the month of January. The extreme hebdomadal range in the self-registering thermometer was 62·5°.

## NOTICES TO CORRESPONDENTS.

Some papers have been forwarded to us respecting certain proceedings which have recently taken place at the Liverpool Northern Hospital. We are not sufficiently acquainted with the matter in dispute to make it the subject of comment. It is at all times to be regretted that any dissension should exist between the lay and the medical officers of a charitable institution.

A Governor of the Salisbury Institution.—It is not customary for a physician to hold the office of surgeon to an hospital or infirmary and at the same time act as a general practitioner. In the present disorganized state of the profession, however, no other rule is followed than that which may arise from a sense of propriety in the individual who is exposed to the temptation of becoming a pluralist.

The length of one of our communications, the insertion of which has been for a long time unavoidably delayed, has compelled us to postpone Mr. T. W. King's paper until our next.

Dr. Mayo.—The paper is in type, and will be given in the number following. We have found it impossible to fix the insertion for an earlier day without acting unfairly to other correspondents.

Mr. Brown's article on Injuries of the Scalp will appear next week.

Dr. Sharkey's (Jersey) cases of Poisoning with Opium have been received, and shall have early insertion.

*Received.*—Mr. M'Whinnie.—Mr. Stafford.—Dr. Budd.—Dr. T. Mayo.—Mr. Tomes.

BEER, AND LONDON PORTER.

Published this day, 8vo. 2s. 6d. sewed,

REMARKS on BAVARIAN BEER, London Beer, the Influence of Electricity on Fermentation, and other Subjects. By WM. BLACK. Being a Supplement to the 3d Edition of his "Treatise on Brewing."

Recently published, 3d Edit. 8vo. 10s. 6d. cloth,

BLACK'S PRACTICAL TREATISE ON BREWING.

London: Longman, Brown, Green, & Longmans.

## Lectures.

### CLINICAL LECTURE ON CASES OF MIDWIFERY,

By J. C. W. Lever, M.D.

Physician-Accoucheur, and Lecturer on Midwifery at Guy's Hospital.

I have to direct your attention this morning, gentlemen, to some cases which have lately occurred in the practice of our Lying-in charity, the reports of which have been drawn up for me by Mr. Lund.

Case I.—*Multipara Antero-posterior Diameter of the brim contracted; Long Forceps unsuccessfully applied. Subsequently Craniotomy performed. Child Male.*

Mr. Lund was called to Elzabeth Collins (æt 38), at 4 A.M., on Nov. 11th. She had been in labour some hours, and the os uteri was dilated to the size of a crown-piece; the head presented, but it had not entered the brim; the anterior part of the presentation could only be reached, and its exact position could not be ascertained. The pains were regular, and in less than half an hour the membranes ruptured, and a considerable quantity of liquor amnii followed, and continued to be expelled for some time afterwards, but the situation of the head remained the same. At 8 A.M., eight ounces of urine were abstracted by catheter. At 10 A.M., Mr. Lund, finding the head of the child did not advance, although the pains were powerful, and having learned that in a previous confinement this woman was delivered by the forceps, requested me to see her. On visiting her I found her restless, dispirited, and anxious respecting the results of her labour. Her pulse was quick and small, her tongue coated and dry, the abdomen did not present its usual appearance, or give the accustomed sensation to the hand when placed upon it; it was irregular on its surface, hard and resisting in some places, soft in others. During pain the uterus contracted irregularly; at its lower part, on the right side, there was considerable pain, and she was impatient when the slightest pressure was made by the hand; and she stated she had suffered from this pain for some weeks previous to her labour. On examination the os uteri was found to be rather larger than a crown-piece, and very dilatable; the head of the child was situated in the right oblique diameter, its anterior fontanelle opposite to the right sacro-iliac synchondrosis. The ante-posterior diameter of the brim was considerably diminished. Attention had been paid to the state of the bladder and rectum. I advised the exhibition of a dose of opium, and desired that the patient should be closely watched. The opium diminished the restlessness, but the pains still maintained their former character, there was still this irregular contraction of the uterine fibres; the tenderness, which at first was confined to the lower and right side of the abdomen, became more diffused, and the pulse had risen considerably in the number of its beats per minute, while its volume and power had greatly diminished.

At 2 P.M. I again visited her, and found her excited, having received a visit from her "spiritual director." On examination, I found no advance in the child's head (which was remarkably hard and resisting), but the scalpy tumor had increased. The urgency of her symptoms determined me at once to deliver. Having previously ascertained that the bladder was empty by the introduction of the long flexible male catheter, I at first endeavoured to accomplish the delivery by the long forceps, which were without much difficulty introduced and locked; but notwithstanding repeated and cautious attempts at extraction were made, no advance of the child's head took place, and it was evident that, from its size and hardness, it could not be adapted to the narrow brim. The head was now opened, the cerebral mass thoroughly evacuated, and, by means of the craniotomy forceps, it was drawn through the brim into the pelvic cavity. The labour was terminated with the assistance of some feeble uterine contractions. In ten minutes the placenta separated, and the uterus remained firmly contracted. For the first few days the patient progressed favourably, the abdominal tenderness diminished, and her pulse gradually declined in frequency; but on the seventh day symptoms of acute bronchitis manifested themselves, commencing in the bases of both lungs, and extending upwards, attacking the right lung to a greater extent than the left. This was treated by counter-irritation and the usual remedies. Her recovery was retarded by her unfortunate situation, living in the garret of a crazy house, without fire or fire-place. She, however, at the present time (Nov. 29th), may be pronounced convalescent.

This case presents many points worthy of note. In the first place, you will remark that the head could only be reached in front—the anterior part of the presentation is always lower than the posterior, whatever that presentation may be; further, that notwithstanding the pains were regular and powerful before I saw the woman, although

the os uteri was dilated to the size of a crown-piece, and dilatable, and the soft parts in a state prepared to admit the passage of the child, yet no change took place in the situation of the head; this was owing to the diminished size of the antero-posterior diameter of the brim, but chiefly to the large size and firmly ossified condition of the head itself. When I visited this woman, I could but remark her anxiety of countenance; her mental depression was extreme, she gave utterance to her fearful forebodings, she was restless, her pulse was rapid and small, her tongue was furred and dry. On placing my hand on the abdomen, I was struck with the sensation caused by its irregularity; it was hard in some places and soft in others, and during the pains the uterus contracted irregularly, the parts where the feeling of hardness was detected, in the absence of pain, became more hard, and their contraction apparently occasioned the patient the greatest agony. In the inferior and lower part of the right side of the uterus there was an amount of tenderness which rendered this woman unable to bear even slight pressure by the hand. I was aware of the amount of pelvic deformity, for I had delivered her in a previous labour by means of the long forceps. The position of the child's head was made out, and the head itself was found to be large, firmly ossified, and unyielding. I advised the exhibition of a dose of opium for the purpose of allaying restlessness and removing that irregular action of the uterine fibres, which, in more than one case, I have known to precede laceration.

One of these purposes only was attained, the diminution of the restlessness, but the irregular contraction of the uterine fibres remained the same; and upon visiting her in four hours I was led to advise immediate delivery, for the following reasons: her pulse had risen in number, but its power had become diminished; there was more mental and bodily depression; the tenderness, at first confined to the lower part of the right side of the uterus, had extended upwards; the irregular contraction of the uterine fibres, accompanied as they were, by extreme pain, continued. These I regarded as symptoms indicating a predisposition to rupture of the uterus; for I am satisfied that, in the majority of cases of laceration, occurring spontaneously during labour, we shall find the tissues weakened or disorganised by previous inflammation, and therefore giving way either from the want of consentaneous action in the part affected, or from the pressure of the child. There was also diminution of the antero-posterior diameter of the brim; and lastly, a large firmly ossified head, shewing no disposition to mould or adapt itself to the narrowed space through which it had to pass. Having determined the necessity of delivery, I had to select the instruments by which it was to be accomplished. As in a previous labour I had completed the delivery by means of the long forceps, I determined to give this instrument a trial, and selected the pair which I now show you; the blades have a double curve, are as long as Haighton's, but differ from his in having the handle shorter; and the shanks, instead of diverging directly from the lock, lie parallel with each other, from the lock to the point of divergement; and this, in order to prevent that irregular stretching of the external parts before the head of the child is brought in the perineum, which Haighton's forceps permits*.

The patient lying on her left side (the position I prefer, as the patient cannot see the necessary manipulation, or be aware of any slight exposure of her person, if such be required), was brought to the edge of the bed; a male flexible catheter was introduced into the bladder: and this is a preparatory step you should never forget when about to deliver with instruments. If you are to operate satisfy yourselves that the bladder is empty; put no faith in the statements of either patient or nurse, for both may be deceived as to the condition of the viscus; in fact, the medical attendant himself will sometimes overlook a distended bladder; and although I had confidence in the watchfulness of this woman's attendant still I did not alter my invariable rule. The blades of the instrument, warmed by immersion in hot water, and anointed, were successively introduced; the head of the child was situated in the right oblique diameter of the pelvis, with the anterior fontanelle towards the right sacro-iliac synchondrosis. One blade was therefore passed over the right brow, and the other over the left side of the occiput; some little difficulty was experienced in adapting the second blade, but this was accomplished by its partial withdrawal and re-introduction. When this instrument does not readily lock there must be no screwing round of the handles; no wrenching or twisting, or we may produce laceration of the womb; the prevention of this accident being one of the objects I had in view in attempting the delivery. After a time it was evident that the child's head was too large and too firm to be drawn through the narrowed brim, and I therefore proceeded to perform the operation of cephalotomy.

For this purpose I selected this perforator; it differs, as you see, from Levret's or Denman's, by the handles being made to cross; so that when the points of the instruments are close the handles are apart,

* The pair of forceps I employ is 14 inches long; the length of the handle is 4 inches; of the shank, with the curve, nearly 3 inches; and of the blade 7¼ in. The width of the fenestrum is 2½ in.

and by bringing the latter together the points are separated. The advantage of this instrument consists in our being able to use it, while the fingers of the left hand are kept in the vagina to protect the soft structures, and without the necessity of an assistant to separate the handles, as in Levret's and Smellie's instrument. The perforator properly prepared was passed along the two fingers of the left hand (which prevented its inflicting any injury on the soft parts), as far as the head of the child; then by a semi-rotatory motion the points of the instrument were pressed into the skull and passed as far as the shoulders. In attempting to perforate the cranium, especially where there is a scalpy tumor and a firmly ossified head, care must be taken lest the instrument slip between the bone and the skull; to prevent this, the perforator should be held as nearly as possible at a right angle with the bone to be perforated. The instrument having entered as far as the shoulders the handles were closed, they were again separated, the perforator turned half round, again closed, and thus a crucial opening was made; through this the perforator was passed on into the cranium, and the cerebral mass with its membranes broken up; the instrument was now withdrawn with the same caution as on its introduction.

After the brain was evacuated, the craniotomy forceps were introduced, and a firm hold having been obtained, the head was drawn through the brim of the pelvis, although with considerable difficulty; the shoulders and body of the child were expelled by the uterine action, although feeble. In most cases, I prefer the use of the crotchet to the employment of the craniotomy forceps; the former is introduced into the cavity of the skull; it therefore takes up no room, and if due and proper caution be employed it inflicts no injury on the soft parts; the latter is a heavy unwieldy instrument, requires great caution in its employment, and even when this is exercised the edges of the instrument may bruise or tear the lining membrane of the vagina. But in cases where the bones of the skull are very firm it is difficult to obtain a firm hold with the point of the crotchet. Before drawing down with the craniotomy forceps take care to cover the rough edges of the bone with the scalp, also to remove any bony spicula, for such will invariably be found where the bones of the skull are firmly ossified. The axes of the pelvis must not be forgotten, and if there be any uterine action of that you should avail yourselves to complete the delivery of the child; for by so doing you will secure the after contraction of the womb, and guard against uterine hæmorrhage. These points were attended to in Collins' case, and the uterus remained firmly contracted after the expulsion of the secundines.

This patient as you have heard from the report progressed favourably for some few days; the pulse although rapid was gradually diminishing in number, and the tenderness which had at first greatly distressed her gradually declined; but on the seventh day symptoms of acute bronchitis manifested themselves, commencing at the bases of the lungs and extending upwards, attacking the right lung to a more considerable degree than the left: these were met by the proper remedies, and although in a critical state for some days, and placed under most adverse circumstances, she may now be pronounced convalescent.

CASE II.—*Hæmorrhage after the birth of the child. — Adhesion of placenta. — Thirteenth confinement.—Recovery.*

To Mrs. Gibbons, aged 39 years, Mr. Lund was called on Nov. 15th, 1845. She was of short stature, and had borne fourteen children in twelve confinements, once giving birth to triplets. Her first six children were still-born. In her two last confinements she had suffered from some uterine hæmorrhage, accompanied with retention of the placenta from adhesion. She had passed through this pregnancy without any unpleasant symptom, with the exception of pain and tenderness at the lower part of the abdomen on the left side. At 11 P.M. on the previous evening she had gone to bed with slight pain in the back, and at 12 was suddenly aroused by a gush of fluid from the vagina, preceded by one sharp pain. At 1 A.M. on the 18th, Mr. Lund saw her, and found the os uteri sufficiently dilated to admit the tips of two fingers, and dilatable. The cervix was full and somewhat puffy; the head was high up at the brim of the pelvis; a small scalp tumor had formed, which first filled the opening of the os uteri, and which was so very soft, and imparted such a sensation of fluctuation, that Mr. L. at first took it for the bag of membranes. During the time he remained the patient had no pain, but, as she was becoming restless, he gave her ℥xx. of the Tinct. Opii. At 10 A.M. he again visited her. Her pains had recommenced; the os uteri was more dilated, and the cervix was thinner and more tense. The scalp tumor had increased, but the head had not advanced. The posterior fontanelle could be traced opposite to the left sacro-iliac synchondrosis. In two hours the pains increased, and continued with regularity; but they then flagged considerably, and the intervals between them were very long. The patient became restless, and talked incoherently; there were frequent

twitchings of the muscles of the face, and spasmodic movements in the right arm and hand, but still no alteration in the position of the head; neither did there appear to be any disposition of the fœtal bones to overlap. Mr. L. requested my advice, and at 2 P.M. I saw her. On examination, I found the position of the head and state of the soft parts as he had reported. I recommended him to give her occasional doses of Julep. Ammon. Sesquicarb. and mild nutriment from time to time: and from my knowledge of this woman's disposition and temperament (having been called to her in her two previous confinements), I advised him to encourage her. This prescription answered admirably; her pains returned with their former vigour and regularity. In less than an hour the posterior fontanelle had advanced considerably downwards, one of its three bones being pressed under the others; the parietal bones began to overlap, and the head considerably compressed advanced steadily through the cavity of the pelvis, and was born at 4 o'clock. The shoulders and body quickly followed; some difficulty was experienced in disengaging the head, from the tight manner in which the funis was looped around the neck. The child was a male of full size, the head was much elongated, the left parietal and frontal bones being forced under those of the opposite side; the hand was placed on the abdomen, the uterus was firm, but irregular in form, and disposed to contract upon the placenta. In ten minutes the uterus relaxed and became enlarged, pressure caused it immediately to contract, and a large quantity of blood was expelled. The finger passed along the funis could not reach its insertion into the placenta. The uterus for some time continued in this state of alternate contraction and dilatation, but its pain continued irregular, and the placenta was within the cavity, Mr. Lund having sent for my assistance, I found on my arrival that there was a continued flow of blood. Some Julep Ammon. and tinct. of ergot have been given to her, but there was a disposition to syncope. Some brandy was administered, and with it the æthereal solution of ergot; the patient revived, the hand was now steadily and cautiously passed along the cord into the cavity of the uterus; the placenta was found partially separated, but a considerable portion was firmly adherent to its anterior and left side. This I at once proceeded to separate, but found great difficulty in so doing, from the firmness of the adhesions and the mobility of the uterus; the hand, with the placenta, was expelled by the contraction of the womb, and a compress and bandage being firmly applied: this organ remained tolerably firm. For some time this woman remained in a state of collapse; her extremities were cold, her face pallid, lips blanched, and the pulse at the wrist imperceptible. Stimulants were freely administered. After a time these took effect; her pulse returned at the wrist, and its volume gradually increased. She now became restless. ℥xxv. of the Tinct. Opii were administered, which caused her to sleep. During the night she repeated the Tinct. Opii in ℥v. doses, with Julep. Ammoniæ, every two hours. She passed a quiet night, and on the following morning her pulse was small and rapid, and there was some pain and noise in the head, but not so much as she experienced in her last confinement. This plan of treatment was continued for four or five days; the opium was gradually diminished, the condition of the bladder and bowels was attended to, and after a time the lochia became offensive; the vulva and vagina were well washed with tepid injections, and she was allowed mild and nutritious diet. Her recovery has been uninterrupted and rapid.

CASE III. — *Sixteenth Confinement. — Hæmorrhage after the Birth of the Child.—Alternate Contraction and Dilatation of the Uterus.—Stimulants and Ergot administered.*

Eleanor B., to whom Mr. Lund was called, in the absence of Mr. Habershon, on Sunday morning, Nov. 10th, had been in labour for some hours with her sixteenth child. The os uteri was dilated, the bag of membranes unruptured, and the pains recurred at intervals of from ten to twelve minutes. In a short time the membranes gave way, and a large quantity of liquor amnii was expelled; the head passed steadily through the cavity and outlet of the pelvis, and was born in an hour after his arrival. A considerable period of time elapsed between the expulsion of the head and the birth of the shoulders, arising from the absence of pain; the child, a living girl, was separated, and the hand placed on the abdomen found the uterus contracted. The woman was comfortable and not faint. In ten minutes a large quantity of blood (nearly a pint) was forcibly expelled from the vagina, and streamed along the side of the bed into a a vessel beneath; the uterus was found closely contracted on the placenta, firm, but irregular in its outline. In five or ten minutes it again relaxed under the hand, and seemed to be rapidly filling; it again contracted, and expelled a large quantity of blood, but retained the placenta. The woman was faint, restless, and tossed herself about the bed. The finger, passed into the vagina, found the funis running through the os uteri and closely embraced by it. Mr. Lund administered two one-drachm doses of the tinct. of ergot, brandy, &c. The ute-

rus alternately relaxed and contracted until just before my arrival. She now complained of pain in the back, and during one sharp pain the placenta and membranes were expelled from the uterus into the vagina, from which it was removed together with several large coagula. The placenta was very large and flabby, and so loose in its texture that it could not support its own weight without lacerating. After the removal of the secundines, but little blood was lost, although the uterus shewed a disposition to relax. I ordered a compress and bandage to be placed over the uterus, forty minims of the æthereal solution of the ergot of rye to be given, and the stimulants to he continued, but with caution. This was done. Mr. Lund and Mr. Habershon waited with her for some hours; a dose of opium was administered, and she fell asleep. From this time her recovery has been gradual but uninterrupted; the only inconvenience from which she suffered being a confused sensation in the head.

In some of her previous confinements she lost a considerable quantity of blood, but there is no record as to the position of the placenta.

These two cases are good examples of hæmorrhage occurring after the birth of the child and before the expulsion of the placenta. In the first case, the alternating state of contraction and dilatation being combined with retention of the placenta from morbid adhesion; in the latter case there was no adhesion, but the placenta was large, soft, and readily lacerable. Let me first direct your attention to the previous history of the patient mentioned in Case II. Although but 38 years of age, she had given birth to fourteen children; on one occasion having triplets. Her last two labours had been marked by large losses of blood following the birth of the child, and in both the placenta was retained, from morbid adhesion. No marked symptom had attended this pregnancy, with the exception of pain and tenderness at the lower part of the abdomen on the left side. The patient, Mrs. B., Case III., was immersed in the greatest poverty and destitution—in want of the necessaries of life. She had given birth to fifteen children, and had previously suffered from copious and dangerous losses of blood.

*Nature of labour.*—In Case II. the membranes ruptured early in the labour, and although their evacuation was preceded by one sharp pain, yet uterine contractions did not occur for some hours; then they were feeble and inefficient, and the intervals of relaxation long and protracted. Short, however, as the pains were, they were attended with great exhaustion, and with considerable disturbance of the due balance of the nervous system. There was considerable restlessness; the patient talked incoherently; there were frequent twitchings of the muscles of the face, and spasmodic movements of right arm and hand; the pulse was feeble and rapid, the eye glazy, face pale, the features shrunken, and the lips colourless. All these symptoms betokened a state of exhaustion and nervous depression; and thus viewing them, and knowing they had manifested themselves in previous confinements, I advised Mr. Lund to give her, from time to time, ammonia with mild nutritious food. This plan of treatment answered well; the uterine efforts became more vigorous, and in two hours the child was born.

Let me direct your attention to the importance of making a correct diagnosis between the convulsive symptoms just enumerated, and the symptoms which precede or attend true eclampsia. If this woman had been treated by bleeding, and those heroic remedies recommended in common puerperal convulsions, she would most certainly have been lost.

The nature of the labour in the third case, that of Mrs. B., is also worthy of notice; when her medical attendant first visited her, he found dilatation of the os uteri; the bag of waters was perfect, and her pains returned at intervals of from ten to twelve minutes; when the membranes gave way, a larger quantity of liquor amnii than usual was discharged, but the head steadily progressed until it was expelled, and now the uterus commenced to develop its proneness to inertia, a considerable period of time elapsing between the birth of the head and expulsion of the shoulders;—at length the complete delivery of the child took place, and the uterus, when examined "per abdomen," was hard and contracted.

*State of the child's head.*—Compare the condition of the child's head before and after delivery, in the first and second cases. In both patients the antero-posterior diameter of the pelvis was under the standard; both children were males. In the first case the head was firm, hard, and unyielding, while, in the second case, although, when I first advised the administration of stimulants, there did not appear to be any disposition in the fœtal bones to overlap, yet, when the system was roused, when the uterine efforts returned with vigour and regularity, one of the bones entering into the formation of the posterior fontanelle was forced under the other two; the left parietal and frontal bones were forced under those of the opposite side, so that when the head was expelled it displayed considerable elongation.

*Symptoms after the delivery of the child.*—In Case II. the uterus, when examined by the hand placed on the abdomen, was

firm, disposed to contract, although irregular in its surface; but in a few minutes it became ill-defined, soft, aud enlarged. Pressure agin induced re-contraction, attended with the expulsion of a large quantity of fluid and coagulated blood, and in this state it continued, alternately contracting and dilating, until my arrival, when I found the patient in the state of collapse mentioned in the detail of the case. Vaginal examination had satisfied Mr. Lund that the placenta was wholly within the uterine cavity. In Case III., after the birth of the child, the uterus contracted, and the patient felt comfortable. In a few minutes a large quantity of blood was expelled from the vagina, and, streaming into a vessel which was accidentally under the bed, enabled us to estimate its quantity, which could not be less than a pint. The hand placed on the abdomen, found the uterus closely contracted around the placenta. Iu a few minutes it again relaxed and rapidly filled with blood; again it contracted, and its contents, both fluid and coagulated, with the exception of the placenta and membranes, were expelled; and now the symptoms of loss of blood manifested tbemselves, and, in the alternating state of contraction and dilatation, the uterus remained until just before my arrival, when, probably owing to the ergot that had been administered, pains reappeared, and the placenta, with its membranes, was expelled into the vagina, from whence I removed it, together with several large coagula.

*Treatment.*—These two cases afford me opportunity to remark on the treatment necessary to be employed in similar cases. In Case II. external pressure had been used; the uterus had been stimulated to contract, both by grasping and the administration of ergot by Mr. Lund, but still its contraction was temporary, of course attended with the discharge oi its sanguineous contents, but a vaginal examination could not discover the insertion of the funis in the placenta; that it was separated to a certain extent was plain, from the blood that had been lost and was still flowing; for if it were entirely attached, there would have been no hæmorrhage. Having been called, on two previous occasions, to this woman, when there was retention of the placenta from morbid adhesion with hæmorrhage, and knowing that there had been a constant pain in the left side of the uterus for some time previously, I expected to find in this instance morbid adhesion also. Having, therefore, revived the patient in some degree by the administration of brandy, and giving a dose of æthereal solution of ergot (a preparation to which I give preference), not for the purpose of causing immediate contraction, but with the view of rendering contraction permanent, after the removal of the placenta, I cautiously introduced my hand along the funis into the uterus. I readily felt that portion of the placenta which was separated, and discovered that a considerable part of its surface was morbidly adherent; this I endeavoured to separate by pressing my fingers gradually between the placenta and uterus, the palmar surface being directed towards the placenta, the dorsal surface towards the uterus. The separation was accomplished with difficulty from the firmness of the adhesion, for although Mr. Lund steadied the uterus from without, yet the strength of the adhesion was such that the placenta was more disposed to lacerate, and the uterus to rotate, than the morbid structure to give way. If I had endeavoured to remove the placenta in the way recommended by some obstetric authorities—viz. by expanding the fingers on the fœtal surface, and squeezing the edges towards the centre, I should have most certainly caused laceration of the placenta, and have left a considerable portion of the mass in the uterine cavity. The hand grasping the placenta was expelled by the contraction of the uterus, and, with the assistance of a compress and bandage, this organ remained tolerably firm. For some time, the patient remained in a doubful state; stimulants were first given her;—at length reaction took place, and after the administration of some opium she fell asleep.

The treatment of the third case had been judiciously conducted. The uterus had been stimulated to contract by the application of the hand, and the administration of ergot, and the situation of the placenta, was from time to time ascertained by a vaginal examination; till at length it was extricated by the re-occurrence of pains. The condition of the placenta is worthy of note:—It was very large, flabby, and so loose in its texture, that it could not bear its own weight without laceration. This state of the after-birth is frequently seen where there is hæmorrhage after the birth of the child, before the expulsion of the placenta, accompanied with an atonic condition of the uterus. In some cases I have seen it coexist with disease of the spleen. I am unable to state whether there be any morbid state of this viscus in this woman. Of the value of opium in the after-treatment of such cases as the foregoing, I cannot speak in too high terms: it acts as a cordial; it allays the restlessness which may reinduce hæmorrhage, and destroy life; it lulls and calms the patient; it diminishes, or prevents, the pain in the temples and top of the head, which is so frequently found to distress patients who have lost large quantities of blood. But in its adminstration,

judgment and considerable caution must be exercised, for it must not be administered in doses which will destroy both uterine and muscular action. The administration of stimulants requires no less care. While hæmorrhage persists, while the powers are sunk, while the pulse cannot be detected, or is barely perceptible at the wrist, these stimulants must be administered until the patient rallies from her state of great depression; but you must not forget, that stimulants which are thus necessary excite the arterial system, and in proportion to the quantity introduced into the system will be the amount of re-action following their employment, and, if their quantity be inordinate, be too great, the re-action excited by their agency may prove most hurtful—yea, fatal—to the patient. These patients were unchanged, were kept in the same posture, and not dressed for some hours after delivery. Attention to this point is of great importance: in many cases permitting the patients to assume the erect posture, or even changing their body-linen, has induced fatal syncope.

*Preventive Measures.*—In Case II., there has been morbid adhesion of the placenta, in three successive pregnancies, causing great danger from the extreme hæmorrhage to which it has given rise. In all three deliveries the placenta has been adherent more or less to the anterior part of the uterus, or to the anterior portion of the side of the uterus. In each pregnancy, pain had been felt for some time previous to the occurrence of labour—a pain relieved, but not removed, by the recumbent position, increased by pressure, &c. My experience leads me to maintain, that the placenta is more frequently found to adhere to the anterior than to the posterior wall of the uterus; and that when it has once occurred, there is a great probability of its recurrence in subsequent pregnancies.

Are there any means of diagnosticating this lesion, or the tendency to this lesion, during pregnancy?—And if so, what is the treatment necessary to be adopted?

Morbid adhesion of the placenta is in most cases attended by pain, referrible to one spot upon which the patient when desired can place her hand, she is impatient when pressure is made by the medical attendant. The pain is usually constant, but is considerably aggravated during exertion, during the erect posture, and if the body be suddenly jarred, or the motions of the fœtus be more than ordinarily turbulent, sometimes it is described as a "dragging," sometimes "dull" and "heavy," but more frequently as a "pricking and burning pain." It may commence early in the pregnancy, and not decline until the uterus is emptied of its contents, which it may be prematurely. In other instances, it may be excited by a fall or blow, and, if unattended to, go on unti the close of pregnancy, when it is found to be symptomatic of that inflammatory action which has glued the placenta to the wall of the uterus. Women in the lower classes of society are more prone to suffer from morbid adhesion of the placenta; and this may probably arise from their greater exposure to accidents, and the causes of inflammation, than women of superior rank. If, therefore, you have a patient advanced some months in pregnancy, who in one or more deliveries has suffered from morbid adhesion of the placenta, if the pain under which she labours bear the characters I have just detailed—if the patient can place her hand over the said seat of pain—if she be impatient of pressure at such spot—if the placenta or uterine souffle be there detected in full sound,—you have just grounds for suspecting that same morbid action is going on, and you will do well by using those means which have in my hands succeeded in preventing that morbid adhesion which in previous pregnancies had taken place, and had hazarded the patient's life during her labour. These are, local depletion, by means of leeches repeated according to the circumstances, blisters renewed from time to time, and placing the patient on a mild course of mercury—not for the purpose of salivating her, but carried to the extent of affecting the gums, and maintaining slight mercurial action for some time, unless some contra-indicating circumstances should prevent. Due attention must be paid to the state of the bowels and secretions, and the diet must be light and free from stimulants.

In cases similar to Case III., are there any means to be employed in a subsequent labour which may prevent the excessive loss of blood, even though the placenta may be again large, flabby, and readily lacerable? Such cases have been successfully managed, the placenta has been easily and happily expelled, and the uterus has maintained its contraction by adopting the following plan:—A broad bandage is to be placed around the abdomen, which is from time to time tightened as labour advances. When the child's head is coming down through the cavity of the pelvis, and about to pass on to the perinæum, a dose of ergot is to be administered, and by the time its action can be developed, the child will most probably be expelled; the ergot will assist in throwing off the placenta, and maintain that contraction of the uterus upon which the patient's safety depends.

This plan of treatment has proved successful in several instances, and has prevented hæmorrhage which has occurred to a frightful extent in previous confinements, and has not failed in those cases where the placenta

has been found to be soft and lacerable; and where such a course has not been followed, in a subsequent delivery hæmorrhage has again occurred to an extent as alarming as before. One marked case I will detail out of several of which I could relate to you :—A lady was attended by a valued and revered medical friend in three confinements; in all there was hæmorrhage after the birth of the child and the expulsion of the placenta, which on removal bore the characters which the after-birth presented in Case III. The hæmorrhage in the last of the three deliveries was most alarming, and for some time but little hope of the patient's recovery could be entertained. She did recover, and, although weakened from loss of blood, again became pregnant. In this confinement, she was treated in the way I have recommended—the bandage was applied, the ergot was given, and the placenta, presenting the characters it did in her previous deliveries, was expelled from the uterus with no more loss of blood than ordinarily occurs, and subsequently maintained its firm contraction. In a fifth confinement, the same means were had recourse to, and with the same fortunate result. Circumstances over which this lady and her husband had no controul removed her to a distance during her sixth pregnancy. She went to her full time. The precautionary measures which had proved successful in her fourth and fifth confinements were not employed in this, and she died from loss of blood a short time after giving birth to a living child, with the placenta flabby and large, having been removed from the uterus by the hand of the obstetrician in attendance.

## Original Communications.

### ON THE VARIETIES IN THE MUSCULAR SYSTEM OF THE HUMAN BODY.

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In the following pages is a summary of the principal varieties in the muscular system which have been recorded in different works, or have fallen under my own observation, comprising some, which have not, to my knowledge, been noticed by anatomical writers.

The subject is interesting from the frequent occurrence of these deviations—on account of the more or less striking analogy they present to the muscular system of animals—and because, in some instances, the surgical anatomy of a region is materially affected by such irregularities in the development of certain muscles.

These irregularities, although more striking when they occur in connexion with a highly developed state of the muscular system generally, are as frequently met with in the thin and spare as in the stout and robust.

Certain regions present these variations to a greater extent than others. Those of the head and face are not much subject to them; in the neck and trunk they are more frequently met with, and most of all in the extremities.

Of individual muscles, or groups of muscles, those appear to deviate least whose functions are the most uniform throughout the animal kingdom; this is particularly the case with the muscles of the head, including those which move the eye-ball; those connected with mastication, deglutition, &c: these are for the most part constant and regular.

Those which enable the extremities to perform actions peculiar to the different species of animals,—conferring the power of swimming, burrowing, climbing, or flying—as, for instance, the pectoral muscles, are constantly varying in their configuration, and some occasionally present analogies with the muscles of animals even below the mammalia.

When it is remembered how frequently other parts of the human body resemble in their type and character those of the inferior animals, we are not surprised at finding repetitions of the same kind in the muscular system. To trace out such analogy is interesting.

Many deviations from the normal condition of the muscles are sometimes met with in the same individual, where they would appear associated together in a remarkable degree, and to a greater extent than in many other bodies taken collectively. They may be confined to one or extend to both sides: it is more common to find them unsymmetrical.

The muscles of the several parts of the body in which these varieties occur, are, for convenience of reference, arranged in their ordinary classification:

it will be seen that in some regions very few are exempt.

The minor differences which necessarily present themselves, in common with those of the other structures, are endless. Albinus says of them: "Quantæ autem musculorum in aliis hominibus dissimilitudines sunt! nequidem duobus unis hominibus similes toti totis. * * * * Et quis singula recenseat!"

The following is an incomplete exposition of the subject; but it is hoped that it may, in some measure, fulfil its object, although many known deviations from the ordinary condition of the muscular system may have been omitted, and still more remain to be recorded by future observers.

Subjoined is a list of the principal works which have been consulted, and to which further reference may be made.

Edward Tyson — Anatomy of the Orang Outang.

Cowper—Myotomia reformata.

J. D. Santorini—Observationes Anatomicæ.

J. G. Salzmann—Dissertatio medica sistens plurium pedis musculorum defectum.

Albinus—Historia musculorum hominis.

Albinus—Academicarum Annotationum Libri.

James Douglas—Myographiæ comparata specimen.

J. B. Winslow—Exposition anatomique de la structure du corps humain.

J. C. Rosenmüller—De nonnullis musculorum corporis humani varietatibus.

W. Isenflamm and J. C. Rosenmüller—Beitrage für die Zergliederungskunst.

E. Sandifort—Exercitationes Academicæ.

S. T. Sœmmering—De corporis humani fabrica.

Gantzer—Dissertatio anatomica musculorum varietates sistens.

Meckel—Handbuch der menschlichen anatomie, or French translation, by Jourdan and Breschet.

D. Boehmer—Observationes anatomicæ.

T. Sœmmering — Von baue des menschlichen korpers. Ungearbeitet von F. W. Theile.

Jones Quain—Elements of Anatomy, edited by R. Quain and W. Sharpey.

Richard Quain—Anatomy of the Arteries.

In the head and face the muscles are found to differ chiefly in size; there are, however, a few unimportant variations from their usual condition.

Independently of its varying breadth and thickness the attrahens aurem is occasionally found double—(Walther).

*Ear.*—The retrahens aurem, sometimes consisting of two, three, or four fasciculi; and some of its fibres may be continuous with the sterno-cleido-mastoideus. A portion of its origin taking place from the occipital bone between the complexus and trapezius.

*Eye.* — Obliquus superior double. The accessory muscle slender and delicate—the comes obliquii superioris of Albinus.

Tensor tarsi; sometimes scarcely visible: it is considered by Theile as originating from the upper and lower portions of the ciliaris.

Corrugator supercilii, arising by two, and even three tendinous portions.

The strata of muscular fibres extending in different directions across the side of the face, appear, in some instances, as scattered portions continued from the platysma myoides; but more frequently as modifications of the risorius of Santorini. He says of this muscle, "Musculus novus, nobis risorius, incertæ figuræ, perpetuus tamen, duplex interdum ac triplex, summo triangulari copulatur, et risui inservire putatur." It has been minutely described by Albinus, Cowper, and others.

Fibres may originate from the zygoma; from the fascia covering the parotid gland or masseter, and reaching forwards, to be interwoven with the muscles of the mouth; crossing the platysma transversely, or describing curves, which look downwards. Albinus saw them connected posteriorly with the external ear.

In other instances fibres spring from the malar bone, and their direction downwards and inwards to be connected with the muscles at the commissure of the lips, gives the appearance of an accessory zygomaticus.

The zygomaticus minor is sometimes developed to a considerable extent; it may be double or bifurcated at the lower extremity, where Morgagni found it divided into three portions. Unlike the rest of the muscles of the face, it is frequently absent.

The muscles of the trunk, including more particularly the deeper seated ones of the thoracic and dorsal regions, present, as might be expected from their complexity and intricacy, many differences of minor importance—these consist chiefly in their constantly varying size and attachments to the spinous and transverse processes of the vertebræ, as well as to the other bones forming the walls of the chest, and consequently in their reciprocal connexions. Such differences are alluded to in the ordinary description of these muscles.

In the muscles of the male and female perineum no very striking peculiarities have occurred to me beyond those which are noticed in most anatomical works.

### Muscles of the Neck—Superficial Region.

*Platysma myoides.*—Presents many varieties in its development; stray and detached portions extending in different directions, resembling the panniculus carnosus of animals; but less intimately connected with the integument, being mostly separated from it by fat.

A large fasciculus running across the muscle just below the chin—(Gantzer, Zazorsky).

A slip arising from the clavicle, extending outwards towards the deltoid, where it became lost beneath the skin—(Gantzer).

*Sterno-cleido-mastoideus.*—The clavicular part arising by two and even three separate portions, as in some animals; remaining perhaps distinct up to their insertion.

No interval between the sternal and clavicular portions; the latter reaching as far as the outer third of the clavicle to meet the trapezius.

Oftentimes a fleshy slip, perhaps tendinous at either extremity, crosses the upper part of the muscle near its insertion—(Albinus).

The clavicular portion continued downwards to a considerable extent over the sternum to be connected with the "rectus sternalis." By the intervention of the latter muscle when considerably developed it may be continuous with the rectus abdominis, or with the fascia, covering the upper extremity of this muscle.

A fleshy slip, extending from it to angle of the jaw—(Brugnone).

### Submaxillary Region.

*Digastricus.*—The posterior belly proportionally large when the stylo-hyoideus is absent. Double—(Albinus).

The fibres of the two anterior bellies blended with each other, and expanded into a muscular plane, with considerable attachment to the jaw — (Fleischmann, Erlanger Abhandlung).

The anterior belly on each side strengthened by a large fasciculus from the os hyoides, to be connected with the lower jaw, so that each appeared double—(Gantzer, Sœmmering).

The anterior portion double—(Fleischmann).

The posterior belly terminating at about the middle of the body of the lower jaw, having little or no connexion with the os hyoides; thus resembling the more simple muscle of animals; as in the dog, where it consists of only one portion inserted into the middle of the lower jaw—(Douglas).

*Stylo-hyoideus.*—Deficient on one or both sides. An additional muscle, the stylo-hyoideus of Albinus; it may pass beneath the hyo-glossus to its insertion. The digastricus separating it from the proper stylo-hyoideus. The external carotid frequently runs between them, the accessory muscle lying more deeply and close to the stylo-glossus.

Connected by some of its fibres with the angle of the lower jaw.

*Stylo-glossus.*—Double on both sides—(Meckel). Deficiency of one or both—(Quain). Boehmer in such case found the other styloid muscles stronger than usual. An accessory fasciculus to be connected with the middle of the pharynx; the stylo-pharyngeus alter of Boehmer.

Some of its fibres arising from the angle of the lower jaw—(Theile).

### Sterno-Hyoid Region.

*Sterno-hyoideus.* — Intersected by a tendinous line a little above the sternum, as in the giraffe. Arising from the middle of the clavicle—(Kelch). Intimately connected by

cross fibres with its fellow, or united at its lower part with the sterno-thyroideus—(Albinus). As in the dog—(Douglas). Continuous above with the fibres of the mylo-hyoideus.

*Sterno-thyroideus.*—Double; one placed over the other—(Gantzer). Intersected by a transverse or oblique tendinous line near the corresponding one of the last muscle—(Albinus). Continuous above with the thyro-hyoideus. Some of the fibres blended with those of the inferior constrictor.

*Thyro-hyoideus.*—An accessory portion internal and smaller—(Cowper). A slip connecting it with the sterno-thyroideus. Intimately united with the inferior constrictor; connected with the cricoid cartilage.

*Musculus glandulæ thyroidea.*—Not uncommon to meet with this muscle, which is generally, however, confined to one side. Usually formed by a fasciculus of the middle or internal fibres of the thyro-hyoideus; it may arise from the ala of the thyroid cartilage, or derive a portion of its origin from the os hyoides.

*Crico-thyroideus.*—Consisting of two distinct fasciculi; one anterior to the other. Some of its fibres blended with those of the inferior constrictor.

*Omo-hyoideus.*—Wholly wanting in one or both sides, as in many mammalia. More common to find it imperfectly formed. The upper portion deficient; the scapular half of the muscle terminating in the fascia of the neck behind the sterno-cleido-mastoideus. The fact of its not having, in these instances, any connexion with the os hyoides, would support the opinion of many anatomists, that these muscles are destined especially to act upon the fascia of the neck.

Detached portions of the sterno-hyoid and sterno-thyroid muscles supplying the place of the anterior belly—(Sœmmering). Arising from the middle of the clavicle—(Albinus). Arising from a considerable portion of the middle of the clavicle its fibres united with the origin of the sterno-hyoideus, with which it formed a single mass of muscle—(Winslow).

The muscle, when arising from the clavicle, concealing the subclavian artery—(R. Quain, plate 25). In such cases the lower portion is absent.

The inferior portion double—(Duille, Musc. Varietates.) The same described by Winslow, where one origin was derived from the usual situation, and the other from the clavicle.

Tendinous intersection scarcely discernible, or altogether deficient.

The muscle ascending over the os hyoides, having a very slender connexion with that bone through the medium of the fascia of the neck, to be inserted into the lower jaw beneath the mylo-hyoideus, and close to the genio-hyoideus; it must have assisted in depressing this bone.

A fasciculus arising from the scapula with the omo-hyoideus, crossing the principal vessels and nerves at the lower part of the neck, and inserted into the cartilage of the first rib—(Sœmmering).

Corresponding additional muscle arising flat from the superior costa of the scapula, behind and internal to the omo-hyoideus, crossing the subclavian vessels and axillary plexus, in which situation it was as thick as the little finger, to be attached by a strong round tendon to the middle of the upper surface of the clavicle.

*Mylo-hyoideus.*—Very firmly united with the tendon of the digastricus. Continuous with some of the fibres of the sterno-hyoideus. Diminutive; a large anterior portion of the digastricus apparently compensating. A distinct and separate internal fasciculus.

*Genio-hyoideus.*—Imperfect, or altogether absent; sometimes replaced by an accessory portion of the mylo-hyoideus in the mesian line—(Derille). Double on both sides—(Mayer).

The two muscles so intimately connected in the median line that they appeared as one—(Theile).

### Pharynx.

*Constrictor inferior.*—The fibres which arise from the thyroid cartilage blended with those of the sterno-thyroideus or crico-thyroideus.

*Constrictor medius.*—Additional points of attachment to the thyro-hyoid ligament (sandesmo-pharyngeus)—(Douglas). To the body of the os hyoides and the stylo-hyoid ligament—(Quain).

*Constrictor superior.*—Immediately be-

hind this muscle an additional stratum of muscular fibres is sometimes found on each side of the middle line, of a more or less symmetrical form.

Arising by a strong-pointed fasciculus from the basilar process; the fibres, as they descended over the proper muscles of the pharynx, passed inwards to meet at the middle line, forming two symmetrical fan-shaped muscles, reaching to the lower third of the pharynx.

Similar muscle on the right side, descending from the processus vaginalis of the temporal bone, the fibres taking their course inwardly to be connected with the upper part of the middle line of the pharynx. On the left side, arising from the petrous portion of the temporal bone, passing down and becoming expanded beneath the hyo-glossus, was fixed to the thyroid cartilage.

These are examples of the accessory muscle of the pharynx described by Sandifort, Albinus, and others, under the name of "cephalo-pharyngeus."

*Cephalo-pharyngeus.* — Sandifort, describing the muscle, says, "Originem trahebat quisque a basi cranii, a latere pharyngis, mox sese pharyngi adplicabat et juxta constrictorem superiorem mediumque, illis cellulosæ ope nexus, progrediebatur, sensim descendendo tenuior factus. Ad constrictorem inferiorem ubi pervenerant, arcuatam acquirebant formam et adscendentes fibræ in mediam pharyngis desinebant."

In the Annotationes Academicæ of Albanus, is a delineation of the cephalo-pharyngeus which descended beneath the superior constrictor, and accompanied the stylo-pharyngeus. "Oriens a basi cranii juxta latus pharyngis demittensque se sub ejus constrictore superiori, deinde adjungebat stylo-pharygei parti posteriori cum eo desinens." Albinus observes, "Parum refert sive velis musculum separatum dicere, sive stylo-pharyngeo adjuvatam partem."

*Stylo-pharyngeus.*—Stylo-pharyngeus alter, alluded to in connexion with the stylo-glossus. (Boehmer.) An accessory muscle from the base of the skull was mentioned in the description of the cephalo-pharyngeus. Two accessory fasciculi are alluded to by Meckel (Deutscher Archiv.)

### Anterior Vertebral Region.

*Rectus capitis anticus major.*—Arising by one or two additional fasciculi from the first and second cervical vertebræ, resembling the muscle in the carnivora—(Meckel). Connected with the anterior and middle scaleni —(Sœmmering).

*Rectus capitis lateralis.*—Double, as in birds — (Meckel). The accessory muscle arising from the outer part of of the ring of the atlas—(Albinus).

*Longus colli.*—Accessory portions from the lower cervical vertebræ, or from the first and second ribs—(Sœmmering).

*Scalenus anticus.*—Accessory portions frequently found appended to the scaleni; one between this and the medius, the "scalenus minimus" of Albinus. The subclavian artery, and part of the axillary plexus of nerves situate in front of it and the rest of the plexus behind—(R. Quain, plate 21).

*Scalenus medius.*—Accessory portion between this and the posticus, the "scalenus lateralis" of Albinus.

*Scalenus posticus.*—Wanting (Meckel). Not uncommon to find an accessory scalenus descending from the transverse process of the sixth cervical vertebra to be attached to the acromial end of the clavicle—(Kelch Beitrage zur Pathol. Anat.)

### Upper Extremity.

*Pectoralis major.*—Clavicular portion closely united with the anterior fibres of the deltoid; in some instances having precisely the same insertion.

Considerable space between the clavicular and sternal portions. Meckel has noticed the existence of other large fissures in the muscle, which cause it to resemble that of most mammalia, in which it consists of several detached portions.

Extra large muscular origin from the aponeurosis of the external oblique; it may have little or no connexion with that aponeurosis.

Strong muscular slip from the lower margin of the left pectoralis major near its insertion, terminating in a long, narrow, but strong tendon, which passed downwards beneath the

fascia, in front of the internal intermuscular septum to be fixed to the internal condyle—(Sœmmering, Caldani, Cruveilhier.

A fasciculus from the same part of the muscle to join the brachialis anticus — (Sœmmering). To the fascia of the fore-arm—(Gantzer).

A very considerable muscular portion, sometimes detached from it to be connected with the fascia of the arm, or crossing the axilla to join the latissimus dorsi, and which, according to Beck, may, by its action, impede the circulation through the limb.

A tendinous portion crossing the bicipital groove, and becoming connected with the tendon of the supraspinatus, terminates in the capsular ligament, which it strengthens—(Sœmmering). Tiedemann met with a case in which there was a large substratum of fibres added to the muscle. Sternal and costal portions entirely absent; the clavicular part alone present—fleshy and strong—Alfred Poland, in Vol. 6 Guy's Hospital Reports.

*Rectus sternalis.*—Of the irregular muscles none is more striking than the subcutaneous fasciculus, which is so often found extending over the anterior surface of the inner border of the pectoralis major. This muscle has been frequently described by authors in connexion with the sterno-cleido-mastoideus, or rectus, with each or both of which it may be continuous, and has received the names of "thoracicus," "rectus sternalis," and "sternalis brutorum."

It is usually confined to one side of the body, where it may be double —(Rosenmuller); the two fasciculi becoming united. Sometimes very short; at others it may equal in length the sternum, with whose outer margin it lies more or less parallel. Fleshy in the middle, and more or less tendinous. or aponeurotic, at the extremities. The upper end may be continuous with the tendon of the sterno-cleido-mastoideus, the inferior with the aponeurosis of the external oblique, near the insertion of the rectus abdominis. More commonly it has no connexion with either of these muscles.

The rectus sternalis has been considered a repetition of the sterno-cleido-mastoideus and rectus abdominis; it varies not only in length but in thickness and breadth, which may be from a few lines to several inches.

In some cases there is merely a vestige of this muscle, indicated by a thin tendinous line between the sterno-cleido-mastoideus and fascia covering the rectus abdominis.

Meckel has noticed tendinous intersections in it as in the rectus. It is considered by this anatomist, by Albinus and others, as establishing an analogy with animals where the rectus in particular is continued very far forward over the sternum. For a detail of the attachments and varieties of this muscle see Ed. Sandifort, in Exercit. Acad. An engraving of it is contained in H. F. Isenflamm and J. C. Rosenmuller, Beitrage.

*Pectoralis minor.*—Arising by additional serrated portions. An accessory muscle placed beneath it, originating by two or three fasciculi from the upper ribs, concealing a part of the serratus magnus and inserted tendinous into the coracoid process —(Rosenmuller),

United to a considerable extent with the coraco-brachialis prior to its insertion.

A distinct fasciculus from the first rib beneath the proper muscle, ascending towards the capsule of the shoulder-joint—(Gantzer).

Portion of the muscle perforating the coraco-acromial ligament, connected slightly with the capsule of the shoulder-joint, and having a tendinous attachment to the humerus near the neck.

Wholly wanting — (A. Poland, Guy's Hospital Reports).

*Subclavius.*—Bœhmer describes two fasciculi of additional fibres, one from the coracoid process, and the other from the acromion, and attached to the first rib. See also Rosenmuller.

Haller describes an additional fasciculus arising from the upper part of the coracoid process.

Meckel observes that the existence of a double layer of muscular fibres renders the analogy between the subclavius and the intercostals the more striking.

Lateral Thoracic Region.

*Serratas magnus.*—The muscle arising from the two upper ribs only, by the same number of fleshy portions; this constituted the whole of the muscle, and was inserted into the superior costa of the scapula in front of the levator—(A. Poland, Guy's Hospital Reports).

Deficiency of many of the middle fibres of the muscle, the upper and lower portions being separated by a considerable interval—(Meckel).

One or two of the upper digitations wanting—(Quain.)

The upper extremity separated from the rest of the muscle by an interspace—(Sœmmering).

Acromial Region.

*Deltoid.*—Some of the posterior fibres arising from the spine of the scapula, distinct and separate from the rest of the muscle.

An additional fasciculus from the fascia covering the infra spinatus, and from the inferior costa of the scapula.

In an instance cited by Albinus, the accessory portion arose from the bone between the infra-spinatus and the teres minor, analogous to a part of the muscle in Birds—(Meckel).

In many mammalia the deltoid is divided into a clavicular and scapular portion; in others the acromial origin is distinct from that derived from the spine—(Douglas).

Scapular Region.

*Subscapularis.*—A band of muscular fibres sometimes extending from the scapula to the neck of the humerus, immediately below the subscapularis.

*Teres minor.*—Very intimate union with the infra spinatus in their entire length.

*Teres major.*—United with the latissimus dorsi by a strong fasciculus from its posterior surface.

*Coraco-brachialis.*—Consisting of two distinct portions from the origin to the insertion. The external cutaneous nerve separating them; but not invariably. Meckel and others notice its resemblance to that of the monkey.

Continuous inferiorly with that of the brachialis anticus. A large portion of the muscle attached to the internal intermuscular septum. In a high division of the brachial artery it may intervene between its two principal branches.

Slip arising from the coracoid process, in connexion with this muscle, passing outwards and expanding over the capsule of the shoulder-joint, to which some of its fibres were attached, and upon which they seemed calculated to act with some effect. The remaining fibres were connected with the outer part of the neck of the humerus.

*Biceps.*—One of the muscles most subject to vary.

The two portions separate and distinct from each other very low down, and united only by their common tendon.

A third head arising from the humerus towards its inner side, near the insertion of the coraco-brachialis, or between the deltoid and the origin of the internal portion of the brachialis anticus.

In the instance where it was last observed, it derived its origin from the bone between the inner portion of the brachialis anticus and the short head of the triceps.

The upper extremity of this head connected only by fascia with the pectoralis major. A fourth additional head, consisting of a muscular slip, arising from the anterior lip of the bicipital groove, behind the tendon of the pectoralis major, (Meckel) who states that as many as five heads have been observed, the accessory portions not being all fixed to a common tendon.

The third head generally lies external to the brachial artery, but has been seen to cross over the vessel to join the rest of the muscle—(Quain).

It may derive many of its fibres from the brachialis anticus, or from the coraco-brachialis; it may also be an offset from one of the proper heads of the muscle.

Fasciculi originating from the biceps itself taking opposite directions; having a tendinous insertion into the capsular ligament—(Sœmmering). Extending inwards to the intermuscular septum above the inner condyle: the slip crossed over the brachial artery—(Quain, plate 57).

*Brachialis anticus.*—Some of its fibres continuous with those of the supinator radii longus. The muscle separated into an anterior and posterior portion

—(Albinus). In some instances the separation is very marked.

A large fasciculus crossing over the brachial artery to be attached to the fascia on the inner side of the arm: a corresponding portion of the muscle also over the artery, to be united with the internal intermuscular septum.

Portion of its fibres to join the biceps; the first step, Meckel observes, towards the formation of a third head to this muscle.

*Triceps.*—Second or external head from the great tuberosity of the humerus, and connected with the tendon of the teres minor.

*Pronator radii teres.*—Double. The accessory portion proceeding from the posterior border of the ulna to join the proper muscle at the back part—(Brugnone). This, Meckel observes, resembles it in the monkey.

Its origin sometimes very extensive from the internal intermuscular septum. The brachial artery may pass between this portion and the rest of the muscle—(R. Quain, plates 36 and 37.)

*Flexor carpi radialis.*—A portion of the tendon continuous with an elongated fasciculus, derived from the abductor minimi digiti—(Gantzer).

*Palmaris longus.*—Presents many deviations. Often wanting. Its place supplied by detached portions either of the flexor digitorum sublimis or flexor carpi ulnaris—(Rosenmüller).

Extra slips from these muscles, with thin feeble tendons fixed to the annular ligament or palmar fascia, may co-exist with the proper muscle, which may be diminutive, and not extending to the annular ligament, but lost in the fascia. The proper muscle more developed than usual; its fleshy portion extending downwards as far as the annular ligament—(Albinus). Fleshy towards the annular ligament, the upper part tendinous. Tendinous at both extremities, with an intermediate fleshy belly.

Terminating in two tendons. The ulnar artery separating them. No connexion with the annular ligament or palmar fascia, but inserted into the os scaphoides—(Winslow.)

In a recent case, the palmaris longus, at the distance of two inches above the annular ligament, sent off a thick muscular slip, which crossed the ulnar vessels and nerve obliquely on the radial side of the os pisiforme; dipping in between the abductor and flexor brevis minimi digiti; being intimately connected with the former by means of a narrow tendon, which was attached to the proximal extremity of the first phalanx of the little finger.

A small muscle extending from the coranoid process of the ulna to the anterior annular ligament, which Meckel says, resembles that found in the monkey—(Perrault, in Valentini).

*Flexor digitorum sublimis.*—A muscular portion, as Cowper observes, is often detached from it to join the flexor profundus; occasionally to unite with the flexor longus pollicis.

The tendon to the little finger wanting; replaced perhaps by the deep flexor—(Quain).

*Flexor digitorum profundus.*—The muscular slip between it and the flexor sublimis already noticed. Gantzer mentions a case, where a long fleshy and tendinous portion, arising from the internal condyle, was attached to its tendon just above the wrist: receiving a narrow slip from the flexor longus pollicis.

*Flexor longus pollicis.*—Considerable origin from the internal condyle.

A fasciculus from it to join the flexor profundus just above the wrist, particularly the tendon to the forefinger—(Gantzer).

In the right arm, sending off a small slip on its inner side, from which a delicate tendon proceeded, to be attached to the synovial sheath of the flexors of the fingers above the wrist. In the other arm a larger fasciculus became connected with the index tendon of the flexor profundus.

*Pronator quadratus.*—An additional stratum of fibres crossing those of the proper muscle.

*Supinator radii longus.*—Some of the upper fibres blended with those of the brachialis anticus. The tendon partially divided inferiorly.

*Extensor carpi radialis longior.*—An additional smaller tendon fixed to the third metacarpal bone—(Albinus.) Its tendon terminating by insertion into the fascia over the outer part of the wrist.

*Extensor carpi radialis brevior.*—Wanting as in many animals. An additional thinner tendon fixed to the fourth metacarpal bone—(Albinus.) An accessary one to the second —(Meckel.)

*Supinator radii brevis.*—Complete separation of the muscle into two parts, the posterior branch of the radial nerve intervening. Sandifort found two distinct short supinators. Fleischmann considers it an approximation to the development in the monkey, where three supinators are found.

*Extensor communis digitorum.*—The muscle divided soon after its origin into several distinct portions. The chief varieties consist in the disposition of its tendons. The fourth tendon divided between the ring and little fingers, or altogether wanting —(Albinus.)

*Extensor minimi digiti.*—Wanting; a tendon sometimes divided into two or three portions, passes from the common extensor to supply its place. Its tendon splitting into two portions, one to the fourth finger; analogy with the muscle in some mammalia—(Meckel.)

*Extensor carpi ulnaris.*—A small tendon attached to the base of the first phalanx in connexion with the extensor communis — (Meckel). Or with the base of the third metacarpal bone—(Winslow).

*Extensor ossis metacarpi pollicis.* — Ending in two distinct tendons, one inserted a little above the other; a portion attached to the trapezium. Sending off a slip to supply the place of the extensor primi internodii; a part of the tendon continued into the origin of the abductor pollicis—(Fleischmann.)

*Extensor primi internodii pollicis.*—Inseparably connected with the extensor ossis metacarpi, and sending off a very diminutive tendon to the other phalanx—(Quain). A smaller portion ending in a tendon which joined the next muscle—(Meckel). Wanting; its place imperfectly supplied by the next muscle which was double, or by the smaller accessory portion of the last-named muscle.

*Extensor secundi internodii pollicis.*—Double; the smaller tendon very narrow, sending off a thin portion to the first phalanx.

*Indicator.* — Frequently varies. An accessory smaller portion joining the proper tendon, Gantzer. An additional tendon from it to the middle finger — (Albinus). Rosenmuller found it a digastric muscle, consisting of an upper and lower portion with an intermediate tendon.

*Extensor proprius digiti medii.* — A proper extensor of the middle finger is sometimes seen smaller than the indicator, and arising below it; this additional muscle may send also a tendon to join the extensor indicis —(Brugnone). An extensor proprius digiti medii is described by Albinus, Annot. Acad. arising from the radius just above the wrist, close to the groove of the extensor communis—(Sandifort).

### Hand.

*Adductor pollicis.* — Continues above with the tendon of the extensor ossis metacarpi pollicis. Two distinct heads; the superficialis volæ perhaps intervening.

*Adductor pollicis.*—Consisting of two distinct portions; the superior larger division arising from the os magnum and slightly from the third metacarpal bone; the inferior portion from the third, fourth, and perhaps fifth metacarpal bone. Meckel considers that it approaches, therefore, the normal condition of the adductor of the great toe.

*Pulmaris brevis.*—Said to be sometimes absent, although often very feeble; I have never seen it deficient.

*Abductor minimi digiti.*—An accessory portion continued upwards over the annular ligament to join one of the flexor tendons above the wrist.

*Flexor brevis minimi digiti.*—Wanting. The abductor in such case being more than usually developed — (Meckel). Arising from the fascia of the palm, or about the wrist—Sœmmering.

*Lumbricales.*—One or more double, or bifurcated; the supernumerary muscle proceeding to the ulnar side of the next finger, or there may be a deficiency of one or two of these muscles.

### Abdominal region.

*Obliquus externus abdominis.*—Distinct and separate fasciculi of muscular fibres sometimes found beneath it (a thin fascia intervening), and arising

from one, two, or more ribs, taking the same direction as the fibres of the proper muscle, and terminating in its aponeurosis. Absence of portions of the two aponeuroses at the lower part associated with a congenital deficiency of the anterior part of the bladder. Arising from the six lower ribs only, a distinct slip joining it from the eighth; the tendon deficient at the upper and anterior part—(A. Poland, Guy's Hospital Reports.)

*Obliquus internus.* — Intersected towards the upper part by one or two tendinous lines, corresponding with those of the rectus.

*Cremaster.*—Varies much in size, and in its connexion with the abdominal muscles. Distinctly double at its origin—(Cowper). It may have a very extensive origin, exceeding an inch in breadth, from Poupart's ligament. The internal pubic attachment is sometimes scarcely discernible, at others thick and fleshy.

*Transversalis.*—Intersected by tendinous fibres—(Sœmmering.)

*Rectus.*—Connected with the ensiform cartilage and sternum; an additional portion as high as the fourth rib. Ascending to the second rib—(Portal by Lieutaud). Joining a slip towards the production of a "rectus sternalis."

Intersected by tendinous lines below the umbilicus, as in the monkey.

Kelch noticed the existence of an additional rectus, placed laterally between the two oblique; extending from the 10th rib to the middle part of the crista of the ilium. Thus approaching the broad rectus of birds—(Meckel).

In some animals it ends in a tendon, inserted into the whole length of the sternum, the fleshy part being fixed to the inferior extremity of the bone, in others reaching quite to the first ribs—(Douglas).

Usually broader inferiorly when the pyramidalis is absent.

*Pyramidalis.*—Deficient either on one or both sides, as in most quadrupeds—(Meckel). The two muscles presenting a marked difference in size. Small, or reaching much higher than usual. Double, and even a third on one side—(Santorini, Winslow).

*Quadratus lumborum.*—Absent on both sides. Additional attachments to the body, or transverse process of the last dorsal vertebra—(Quain).

A small external muscle adherent to its posterior surface; arising from the transverse processes of the second, third, and fourth lumbar vertebræ, whence the fibres ascended, and crossing those of the proper muscle, were inserted into the last of the false ribs—(Winslow).

*Psoas magnus.*—The upper part of the muscle arising from the last rib, or from the upper margin of the first lumbar vertebra—(Quain).

A portion from the transverse processes quite distinct from the proper muscle, placed between it and the iliacus; the anterior crural nerve intervening—(Meckel.) Constituting an analogy with the monkey—(Valentini, Amph. Zoot.)

*Psoas parvus.* — Wanting. Theile found it in only one out of twenty bodies, and does not consider it proper to man. Double. Winslow says, "independently of the proper muscle a smaller one is sometimes placed between it and the spine."

The psoas parvus may be connected with the first lumbar vertebra only, or with the second and the fibro-cartilage above it. Commencing by two heads separated by an interval—(Quain).

*Iliacus internus.*—Some of the external fibres, those arising from the anterior inferior spine, close to the rectus sometimes separated from the rest of the muscle down to their termination in the linea aspera, below the small trochanter.

*Diaphragm.*—Partially deficient; the defect in the muscle often accompanied with protrusion of some of the viscera through its fibres. A large fasciculus of transverse fibres in front of the central tendon—(Huber). Rudolphi noticed a broad band of fibres below the opening of the inferior cava.

### Dorsal region superficial.

*Trapezius.*—The two muscles not always symmetrical, the left being the smaller, its origin taking place from the six or seven spinous processes of the upper dorsal vertebræ only.

Deficient on the left side, both at its upper and lower part; attached only to the four lower cervical and three upper dorsal vertebræ Its

clavicular attachment wanting, as in those animals where the clavicle is absent.

Interval between the upper and lower portions from the absence of some of its middle fibres—(Sœmmering).

Tiedemann found it partially doubled by a substratum of fibres.

Trapezius on each side attached to the two outer thirds of the clavicle, and meeting the clavicular portion of the sterno-cleido-mastoideus. A slip from the anterior part of the muscle in the neck crossing the subclavian vessels, and attached to the inner third of the clavicle behind the sterno-cleido mastoideus — (R. Quain, plate 25).

*Latissimus dorsi.*—Varies in respect to the number of spinous processes of the dorsal vertebræ to which it may be attached, from four to eight. Its origin from the ribs too is constantly varying, as also its connexion with the inferior angle of the scapula.

A muscular portion continuous with that of the pectoralis major already noticed; extending across the axilla and sometimes lost in the fascia. Tyson represents the tendinous elongation of this muscle in the orang-outang, attached to the internal protuberance of the os humeri.

In the dog the tendon is fixed to the olecranon after having received the attachment of the panniculus carnosus—(Douglas.)

Sœmmering describes a thin fasciculus of muscular fibres ending in a tendon to be connected with the short head of the biceps and coracoid process. With the coraco-brachialis—(Rosenmuller.)

*Levator scapulæ.* — The several portions from the transverse processes remaining separate to their insertion. The first portion from the atlas attached below to the clavicle, with the anterior border of the trapezius; resembling that of the monkey.

A very considerable portion of muscle arising with it from the transverse processes of the cervical vertebræ, and passing downwards to be inserted into the middle of the clavicle close to the outer side of the sterno-cleido-mastoideus.

These two instances bear a resemblance to the levator claviculæ of the orang-outang, and some other animals.

Arising from two of the upper transverse processes only, or there may be an additional origin — (Theile). A slip extending to it from the mastoid process—(Meckel). Also from the second rib.

A portion inserted into the spine of the scapula, as in the monkey.

*Serratus posticus superior.*—A portion extending from the upper part of this muscle by the side of the levator scapulæ to the transverse process of the first cervical vertebra — (Rosenmuller.)

### Lower extremity.

*Sartorius.*—Has been found wanting —(Theile). Gantzer alludes to instances where it was double. An accessory smaller one—(Rosenmuller). Intersected towards the middle by a tendon—(Kelch).

*Subcrureus.*—Generally exists, though formerly regarded as rare; it varies, however, as to the degree of its development and connexion with the Crureus. — (Albinus, Gantzer). It may consist of a double stratum.

*Pectineus.*—Inseparably connected with the origin of the adductor longus. United inferiorly with the adductor longus; the profunda artery passing beneath both.

In some animals the pectineus descends very low—(Meckel). In the dog it reaches the inner condyle of the femur—(Douglas). An accessory muscle arising from the inner and upper part of the obturator foramen, and joining the tendon of the muscle—(Winslow).

*Adductor longus.* — Sometimes divides into two separate muscles. Descending lower than usual, and terminating in a thin tendon connected with the adductor magnus—(Meckel).

*Adductor brevis.*—Also divided longitudinally, either wholly or in part, as in the monkey—(Meckel).

*Adductor magnus.*—Consisting of two distinct portions, separated longitudinally, as in the monkey—(Meckel).

*Glutei.* — A substratum of muscular fibres added to the gluteus maximus, varying in bulk; separated by fascia from the proper muscle, which thus appeared double—(Tiedemann).

*Pyriformis.*—Frequently consisting of two portions, which may be sepa-

rated from each other by the whole or part of the great sciatic nerve. A portion of it arising from the notch itself. Inseparably connected with the gluteus medius.

*Gemellus superior.*—Often wanting, as in monkeys.

*Gemellus inferior.* — Meckel found it absent at the same time with the other; both are absent in the bat, kangaroo, &c.—May be double.

*Quadratus femoris.* — Absent — (Albinus). Meckel records a case of this kind in which the gemelli were unusually strong, separated into many distinct fasciculi—(Jancke, de caps. tend.)

*Biceps.*—A smaller head deficient; remarkable analogy, as Meckel observes, to animals where it is never found.

A third head having a narrow origin from the tuber ischii, and joining the rest of the muscle above the ham—(Gantzer).

A fleshy slip from it to the outer part of the leg where it proceeded to be inserted tendinous between the gastronemeus and soleus — (Salzmann).

*Extensor longus digitorum pedis.*—Slip of considerable size to join the tendon of the extensor brevis to the great toe.

*Peroneus tertius.*—Many varieties both in the extent of its muscular portion and strength of its tendon, which may be very diminutive. Larger than usual, or altogether wanting; it may be replaced imperfectly by a portion of the peroneus brevis.

At other times its muscular portion may almost equal in extent that of the common extensor; its tendon may terminate in the fourth metacarpal bone and in the fascia covering the dorsum of the foot—(Quain).

*Peroneus longus.*—A smaller accessory muscle arising from the fibula between it and the peroneus brevis; the tendon joining that of the proper muscle—(Theile).

*Peroneus brevis.*—Double. The accessory muscle sending off a thin tendon, either to join that of the proper muscle, to be fixed to the os calci, or to terminate in the fascia on the outer side of the heel.

*Gastrocnemius.*—Joined by a fasciculus arising separately from the femur above one of the condyles, uniting either with the middle of the muscle on its deeper surface, or becoming blended with one of its heads. In the former case, the additional head passing over the popliteal vessels separated them from the nerve; in the latter instance, where it arose from the external condyle, it separated the popliteal artery and vein—(R. Quain, plate 80, fig. 4 and 5.)

*Plantaris.*—Frequently wanting; more so than the palmaris longus, of which it appears an imperfect imitation, and a rudiment of a larger muscle in some animals—(Meckel).

Formerly considered to have the same termination in the sole of the foot as the palmaris longus in the hand—(Albinus). Vesalius showed that it never arrived at the sole even in the fœtus.

Terminating in the internal annular ligament — (Quain). In the fascia over the posterior tibial vessels. In the substance of the tendo-achillis near its posterior surface.

A second head arising from the femur above the proper muscle—(Theile).

*Soleus.*—Thick bundle of fibres added to it; covering the posterior tibial vessels as far as the inner ankle, arising from the deep aponeurosis of the muscle, and ending in a tendon which was inserted into the os calcis on the inner side of the tendo achillis—(R. Quain, plate 85, fig. 1).

*Popliteus.* — Double. (Fabricius ab Aquapendente.)

*Flexor longus digitorum pedis.*—Accessory muscle arising from the lower part of the tibia and perhaps from the fibula, becoming narrow and passing down in front of the tendo achillis to the sole of the foot to join either the tendon of the flexor longus or the flexor accessorius — (Rosenmuller.)

*Flexor longus pollicis pedis.* — Muscle of considerable size arising in company with and on its outer side; terminating in a narrow tendon inserted into the upper and inner part of the os calcis, below the groove for the tendon of the proper muscle, thus forming an additional flexor of the foot.

A supernumerary muscle of this kind from the deep fascia of the leg, being attached inferiorly to the os calcis—(Mayer, in Heymann); the

" accessorius ad calcaneum" of Gantzer.

Meckel considers that where this additional muscle is connected with the fascia, it is the analogue of the palmaris brevis.

*Tibialis posticus.*—The tendon presents more variety than the muscular portion. Albinus observes that it is also sometimes attached to the second and third metatarsal, cuboid or second cuneiform bone.

FOOT.

*Extensor brevis digitorum.*—Separated at its origin into three or four distinct heads—(Sœmmering.) The internal head connected with an extra slip from the extensor communis; this internal fasciculus very large and quite distinct from the rest of the muscle.

*Flexor brevis digitorum pedis.* — Deficiency in some of its external or internal fibres; replaced by a portion of the abductor or flexor brevis pollicis. Meokel observes, that this condition calls to mind the disappearance of the flexor brevis as a distinct muscle in mammalia and birds. In the monkey the internal portion is isolated. The tendon of the little toe wanting; replaced by a part of the flexor longus.

*Transversalis pedis.*—Sometimes deficient—)Bochmer, Observ. Anat.)

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## RECORD OF CASES.

By Thomas Mayo, M.D. F.R.S.
Physician to the Infirmary of St. Marylebone.

[Continued from p. 203 of the last volume.]

THE following case illustrates a suggestion contained in one of my preceding reports, of the facility with which inflammatory disease might escape detection when present in the hysterical diathesis; though in the present instance its character became manifest from its extreme severity. Another point of interest in this case is its relation to those pathological views relative to inflammation which are now becoming prevalent; which teach us sometimes to interrogate the circulating blood rather in relation to its crasis and constitution than to its quantity, as causative of the inflammatory state. For here we shall find a phlegmasia apparently running a most violent and rapid course in a subject who had sustained very large losses of blood. A third point of interest is the completeness of the recovery of the patient in obvious connection with some, at least, of the remedies used.

Miss N——, applied to me first in November 1843, aged 23, of tall stature, and sufficient fulness of person, having been formerly large, of fair complexion, full colour, with a tendency to flush; her pulse small, skin cool and healthy. She was subject, she said, to severe headaches, with sickness and intolerance of light; her stomach capricious, all acids disagreeing, the bowels, for the last twelve years, requiring frequent but mild aperients; catamenia regular, but rather defective. She is easily tired by exercise, sleeps ill, and is anxious during the night, and has much difficulty of late in commanding attention or consecutive thought. She is a clever person. The following course was prescribed by me.

℞ Pil. Hydrarg. gr. iij.; Pulv. Jacobi, gr. ij.; Ext. Rhei gr. ij.; Ext. Hyoscyam. gr. v. o. n.

℞ Potassæ Bicarbonat. ʒj.; Infus. Aurantii, Aquæ Pimenta, aa. ʒij.; Infus. Rhei ʒiss.; Tinct. Rhei co. ʒij.; Syrup Aurant. ʒij.; Tinct. Capsic. ♏ xv. M. ft. mistura cujus sumatur 4ta pars bis quotidie.

℞ Hydrarg. Chlorid. gr. ij.; Pulv. Jalapæ gr. iv. urgente cephalalgiâ.—The latter pill she had habitually taken with advantage under the above-mentioned headaches.

March 7th, 1844.—She is much better for the above course, pursued with occasional intervals. Vertigo and cloudiness of head, she says, is removed. She finds that, having been unable to apply herself to reading at all before I saw her, she can now do so, though for short spaces of time, from a sense of fatigue and of confusion, which soon comes on, with flushings and uneasiness of head.

The same principle of treatment, with the tepid shower-bath, to be persisted in.

July 11th.—She is going on well, though frequently obliged to take the pill of calomel and jalap above prescribed. The excretions sufficient in quantity (I had no opportunity of examining the urine), but languor and relative feebleness remaining, with a

small quick pulse. I now directed a modified continuance of the above plan, with the following tonic.

℞ Ammoniæ Sesquicarb. ℈j.; Aquæ Pimentæ, ℥vss.; Tinct. Ferri Ammoniat. ʒj.; Syrup. Aurantii, ʒij. cujus misturæ sumatur 4ta pars bis quotidie.

On the 10th of August, I was sent for to the neighbourhood of Hampstead, to see Miss N——, under the following circumstances. On the 3d, the patient being under a course of the above mixture, became much oppressed in the head; during the day hæmaturia occurred, with relief of head. In the interval between the 3d and the 10th of August, the mixture had been used occasionally, and two grains of calomel taken; oppression of head had continued; acute pain supervened: the hæmaturia had occurred at intervals, and finally in great quantity. I found the patient complaining of acute cephalalgia, the cheeks flushed, the pulse small; no disproportionate action of the heart; much apparent exhaustion, though the hæmaturia that morning had somewhat abated; acute pain down the right leg and thigh.

The hæmaturia returned in the evening, but was easily controlled by recumbency and the following mixture.

℞ Infus. Rosæ, ℥vss.; Acid. Dilut. Sulph. ʒij.; Tinct. Hyoscyami, ʒiss. 4ta. parte 6tis horis sumptâ.

and powdered ice applied over the os pubis, where there was much heat. On the 11th, the catamenia occurred, a fortnight before their time; a gouty blush on the right great toe, which lasted a short time.

Hysterical symptoms now commenced, with occasional delirium and continued excitement. Early on the 14th a remarkable degree of collapse, without any increase of hæmaturia, but with loud complaints of intense uneasiness and want of support in the loins. Tenderness on pressure in the right iliac fossa was then observable. The bowels were not inactive. Under these circumstances, I had the advantage of a consultation with Dr. Chambers, the patient being revived before he came by stimulants. The measures adopted between this period and the 24th of August had a three-fold object, the stopping hæmaturia, the pacifying hysteria, and the preventing such consequences as might ensue upon the tenderness in the cœcal region, and a very disordered state of the secretions of the bowels. For the first purpose the acetate of lead was used; for the second, camphor and extract of lettuce, &c.; for the third, calomel, with opium, and mercury and chalk. The hysterical delirium took, at different times, a formidable appearance, threatening insanity; it was much abated by cold affusion when the skin was sufficiently hot for its application. Active purgatives were used throughout this interval of time.

By the 24th the mouth was mercurialised, the hæmaturia had ceased, the delirium abated, and there was little complaint of pain in the leg or loins. Nights also were tranquil. But about this time the patient began to complain of uneasiness in the right nates; and Mr. Evans, whose cooperation I had obtained since the collapse above alluded to, pointed out to me a swelling there, with much tenderness, but no redness. Shortly afterwards, from a small ulcerated opening in this tumor, fæcal matter passed out, implying, as we reasonably imagined, a fistulous communication with the rectum, from which it was distant about two-thirds of an inch. Meanwhile the constitution was evidently sympathising with some new source of irritation, and delirium was returning, with entire sleeplessness. Under these circumstances we had the advantage of a conference with Mr. Travers, in whose words I proceed to detail the appearances which met his eye, and the operation immediately performed by him on the 31st. "When the nates," he observes, "were exposed, a large and tense swelling was seen, occupying the left buttock so as to elevate its point, upon which appeared an oozing wound. Upon freely dilating with a bistoury this small oozing wound upwards and downwards, a copious and offensive discharge took place of fæculent matter intermixed with pus and some quantity of venous blood. On introducing my fingers I found a very extensive pouch, presenting broken-down tissues, and satisfied myself that the connection between it and the gut from which the fæculent matter proceeded was direct, and not implicating the rectum or pelvic guts."

Such was the operation performed by Mr. Travers, on what he terms, in another part of the letter from which I

have made the above extract, "probably a colic abscess." The operation was borne well, seeming, indeed, to give but little pain from extensive sphacelation of the parts divided. Support was freely given, and a good night obtained by Morphia Acetat. gr. ss., Ext. Hyoscyam. et Conii aa. gr. iv.

Between this date and the 4th of February, 1845, on which day the external wound made by the operation was completely cicatrised, the progress of improvement was gradual, but uninterrupted. The tendencies to hysterical delirium wore off; complaints of pain in the head, the loins, and the right leg, subsided; some tenderness, indeed, remained at the cœcal region. The plan pursued being ℞ Infus. Cinchon. ʒxi.; Tinct. Cinchonæ ʒj.; Tinct. Hyoscyam. ♏ xxv.; Acid. Dilut. Sulph. ♏ xij. bis vel ter quotidie; Pil. Hydrarg. gr. iv. combined with Ext. Colocynth. Co., or some similar aperient, omni nocte; an occasional dose of calomel, which always seemed to promote the healing process in the deep wound, and for some time Morphiæ Acetat. gr. ss., Ext. Rhei, gr. iij. h. s. On any attempt to drop the alterative, or diminish the purgative part of this plan, the secretions deteriorated, and the head became oppressed and painful. Free nourishment was given, and wine, which in health she could not bear, taken with advantage. But soon after the cessation of all discharge, from the complete cicatrization of the wound, slight pyrexia, flushing and uneasiness of head was observable, and pain and increased tenderness of the cœcal region. It may be a matter of surprise that local depletion had not been applied in that region during what the event proved to have been the acute state of the tuphloenterite. But it must be remembered that this sprung out of a most cachectic state, with symptoms of extreme collapse, and a very large precursory or concomitant hæmaturia, as well as an anticipated menstrual period. However, I now applied ten leeches to the right iliac fossa with great advantage, giving at the same time Hyd. Chlor. gr. iv. and a draught of infusion of senna and purgative salts. No similar exacerbation recurred, this plan being continued through a few doses.

Between this event and the 22d of May, my patient had resumed sufficient strength to go a little into society, and to take daily airings. Slight tenderness remained at the cœcal region, confusion and oppression of head were easily produced, though less habitually present than before this illness. She was conscious of the exhausting effects of her alterative and aperient course, yet totally unable to dispense with continuousness of the latter and frequency of the former. My mind turned to that combination of a soothing, a tonic, and a deobstruent principle, which the continental baths have so happily afforded in many instances, as likely to prove beneficial in this; and it was determined, in consultation between Dr. James Johnson and myself, that a residence first of some weeks at Homburg, then a course of the Schwalbuch tonic waters, should be carried out. At this time, I may observe, pills of Pil. Hyd. Ext. Jalapæ aa. gr. v. were taken by Miss N. alternate nights, with frequent alkaline doses in the day; the urine otherwise depositing the lithate of ammonia, and feverishness occurring.

The beneficial effects of the course thus laid down were very striking. On the 3d of August I heard from the patient that her strength was increased, the sensations of her head ameliorated, and her muscular pains removed, though blue pills, or aperient pills, had been rarely required at Hamburg. Her stay there and the course of the waters lasted between five and six weeks. The Kaiser and Elizabethan springs had, at first, been taken together; after a time the Elizabethan alone, which appeared to agree with her better. Saline baths also were used every other day, at a temperature of 28 Reaumur. I advised her, after this, to pursue her course to Schwalbuch, where, agreeably to directions given by Dr. Müller, of Hamburg, she both employed the strengthening baths, and drank the waters of the Pauline spring, mixed with Elizabethan waters from Homburg. For ten days this combined course agreed very well, then became oppressively stimulating, and was discontinued for a time. The patient then went into Switzerland, and returning to Schwalbuch, somewhat too late, in the middle of September, took another ten days' course, and so returned to England. I mention these therapeutical details as possibly useful to my readers. The baths of Schwalbuch, my patient

observes, are far more exhilarating, and the arrangements far more comfortable. Finally, I have seen her since, not free indeed from her predispositions, nor entirely without sensitiveness in the cœcal region, but in good health, and relieved from the necessity of taking *habitual* aperients.

The chronic features of the above case are such as are frequently laid before us in young females. The acute stage of it, beginning in July 20, 1845, with hæmaturia, proceeding with an intense development of hysteria into an apparent phlegmasia of the caput coli, and ending in perforation and abscess, determined externally in its course, is highly interesting. In regard to the first symptoms, the urine, I may observe, was often scanty in quantity, and then deposited lithate of ammonia, its reaction always sub-acid, its specific gravity not ascertained by me, its general appearance healthy.

In regard to the process of ulceration of an intestine, and the formation of abscess in the subjacent parts, it is important to observe, that this process went on in spite of mercurialisation of the patient, as well as a remission of pain and delirium, which gave us reason to hope that the case was proceeding favourably at the very time that the patient was beginning to feel tension and uneasiness in the buttock, through which the abscess found a vent.

Nor is the question respecting the connection of that delirium and mental excitement with the enterite, which it masked and accompanied, less interesting. In a former record, I have noticed the entire preponderance of mental over physical phenomena in a case of perforating ulceration of the ileum; in which slight pyrexia, and an intense waywardness, were absolutely the only indicants of the presence of disease. A similar relation of mental to physical symptoms is observable in the Clinique Médicale of Andral, under the head of diseases of the abdomen, particularly in the 11th, 24th, 25th, and 43d cases, where adothinenterite has been the only tangible ground of the malady. The 11th case is very marked. All the apparent symptoms of the patient, who can give no account of his prior state, are a continual raising of his eyes to heaven, and crossing his arms to his breast as under the emotions of an intense piety. His countenance is pale and thin, but his strength not deficient. The excretions regular, skin warm, pulse frequent and hard, but his respiration is perfectly natural, and his chest everywhere resonant on percussion. Except that the tongue becomes more dry, no increase in symptoms takes place in any other department than mind. With increasing violence of his devout emotions (extasé) his intellectual faculties become quite lost, and his articulation slow and impaired, and he died in three days from his admission into the hospital, preserving much physical strength and even appetite to the last.

The delirium of *my* patient, I may here observe, was also marked by a leading feature; the trains of emotion and thought were strictly uterine, as those of the above patient were devotional.

Now the post-mortem appearances of Andral's case are as follows. With some fluid between the tunica arachnoidea and pia mater, the brain itself perfectly healthy, softening and engorgement of the base of the right lung, the remainder of the lungs crepitant and sound; some dark spots, with softening of the membrane at the pyloric extremity of the stomach. The mucous membrane of the ileum very pale, almost as far as the cæcum: at about five fingers' width above the cæcum, an ulcer, of the size of a three franc-piece, the base of which was the muscular tissue laid bare; four or five smaller ulcers in the cæcum, the membranes of which was otherwise pale. No other abnormal appearance in the great intestines.

Beside the general interestingness of the subject, I am inclined to think that our diagnosis both in abdominal and thoracic disease might be helped by farther inquiry into the distinctive cerebral phenomena, to which they may give occasion.

Whatever interest the above particulars may claim, not the least important fact which they convey, is the completeness of the patient's recovery under the agency of the waters of Hamburg and Schwalbuch. And I may here observe, that the patient, whose judgment and clearness of intellect might well be relied on, has affirmed to me with great distinctness the benefit which she received from

these waters, independent of the general good obtained from change of air and scene, to which *we* are perhaps disposed to attribute more than the due share which they are entitled to, in the recovery of such patients.

[To be continued.]

## OBSERVATIONS ON LIGATURES AND ANEURISMS.

By T. W. King, F.R.C.S.E.
Lecturer on Pathology at Guy's Hospital.

Some observation and reading have brought me to an indifferent estimation of the existing theories, and even practices, as to securing arteries. I deem it safe to speak of discrepancies, deficiencies, and serious errors, and I shall not hesitate gradually to unfold a set of remarks which, if true, must eventually modify the general view of the matters in question. I find a good deal to complain of in experimenters, and most of all in writers; but it will be my single object to set down such facts and reasonings as may appear needful and just. It may be, in the main, needless to discuss the doubtful and erroneous opinions which some hold, and it is not imperative rashly to advance to any general conclusion.

In reviewing the course of my examination of the present subject during the past year or two, the following opinions present themselves; and I venture to set them down to explain my ultimate object, and to shew that if I am in error, it has been a somewhat complicated temptation which has misled me.

If I am not mistaken, we have—

1. Actually a succession of writers overlooking the better points of their predecessors.

2. Experimental data, partial or erroneous, or admitting of very different and better explanations than have been anticipated, and even of the most important additional deductions.

3. Great physiological principles, apparently correcting the prevailing opinions.

4. New and essential demonstrations from pathology, which compel us to remodel our views.

5. There are broad general facts in surgery, which seem to lead inevitably to a revision of present principles.

6. Finally, all these several considerations, pointing in one sufficiently direct course, form, to my mind, an argument cumulative, which it will be difficult to set aside.

I hope that three or four little papers will suffice to set forth the more solid parts of the basis of these conclusions, and time must do the rest. I shall not be found without the sanction of some good authority, although opposed to the majority enough to pretend originality. It is foreign to my views to dwell on disproofs or negative assertions, or even on history, farther than seems unavoidable.

### Sect. 1.—*A General View of Facts relative to Bleeding after Ligature of Arteries**.

*There is a critical day for the discharge of ligatures, before which fatal bleedings arise, and after which the thread comes off safely. Late hæmorrhages are comparatively safe, and tardy ligatures harmless. — Dr. Norris's Statistics of the Subclavian.*

A healthy coachmaker in the country had popliteal aneurism. The femoral artery was tied, and hæmorrhages followed. The iliac was tied with the like result; and I think I should state, that it was a third ligature which induced the fatal bleeding.

The event here sketched occurred some years ago, and is by no means unique. The reader will feel that such a case, for a first experience as to the tying of arteries, is not a little impressive. The fact is perhaps like too many others, in having hitherto remained unpublished.

Mr. B. Phillips (Med. Gaz. 15, 870) states, that of 171 ligatures of arterial trunks, between the years 1824-34, one in three was fatal, and that one-seventh of the successful cases had some secondary hæmorrhage. — It appears that the recorded successful ligatures of the iliacs were 74 per cent.

| | | |
|---|---|---|
| femoral, | 74 | „ |
| humoral, | 73 | „ |
| carotid, | 66½ | „ |
| subclavian, | 49 | „ |
| humoral and femoral by the old plans | 75 | „ |

* The following paper was read before the Physical Society of Guy's Hospital, by Mr. G.

I do not hesitate to declare, that the old operations were frequently attended with bleeding; but this we shall prove in due time.

The various circumstances under which the tied artery bleeds, whether at the moment of tightening the ligature—in the sequel of sloughing—as a consequence of too rapid ulceration—or protracted or deficient reparative action—or through premature exertion of the patient,—all these anxious cases are the province of cultivated experience; but it will be my endeavour to confine myself to the exposition of somewhat aggregate facts.

The facts I am about to refer to will, I hope, lead to a double inquiry—namely, in the first place, Are the fatal bleedings after ligatures more numerous than they are reported to be? and 2dly, Is the tying of great vessels capable of improvement?

It seems needful here to speak of at least two kinds of bleeding after ligatures. We have one with pretty copious repair, thickening and contracting vessels, yet a point gives way. We have another list of cases with no repair, or with sloughing, atrophy, ulceration, or abscess, and with gaping tubes. Thus we find only a slight local defect, or a wide constitution deterioration.

The history of hæmorrhages from ligature resembles the failures of despots. Even museums shew but a part of this unfavourable side of the surgery of arteries, which is to be set against the too partial records of medico-chirurgical societies. The taste for preserving the painful evidences is nowhere, I think, excessive.

Some chief points in the history of ligatures seem to be entirely neglected. Surgeons have not often stated how much they entertained the particular design of thoroughly dividing the internal arterial coats, nor what reason they have had to conclude their design accomplished. They have not stated the circumference of the noose, as shewn after its separation. Some precision here, and as to the apparent size and solidity of the vessel, seem indispensable. Few appear fairly to have matured their hands and judgments by experiments on the body recently dead. I do not know that any one has fairly shewn that the thread may trench deeply on a third, or two-thirds, of the inner circumference, and leave the remainder entire, and the thread perhaps almost loose. The last-named occurrence may explain the case of early bleeding and late separation of the ligature.

I have noted numerous instances wherein I could only suppose that moderation had secretly stood before theory.

One surgeon of distinction tells me he is more gentle than others, and another states that he has never felt the peculiar giving way of tunics in any of his operations.

The separation of a ligature many days after the outbreak of hæmorrhage is not very uncommon. The advocates of tight ligatures may complain that the thread has here done too little, supposing that it should have done wider instead of partial mischief; but is it not desirable that the tardiest process should have involved the whole cylinder, instead of a part?

A recent and most complete digest* of 69 cases of ligature of the subclavian artery, by Dr. G. Norris, will supply us with some very remarkable and striking inferences.

"The 69 operations were performed for disease or injury. 56 were done for the cure of aneurism; 9, in consequence of wounds or secondary hæmorrhages; 1 was made necessary in consequence of rupture of the axillary in an attempt to reduce an old luxation; and 3 were done for diseases supposed to be aneurismal.

"Of the 69 cases, 33, or nearly one half, died; of these, 2 died from sloughing of the tumor; 9 from hæmorrhage coming on at various periods between the 4th and 33d† days; 5 from inflammation within the chest; 6 from mortification of the extremity; 1 from effusion on the brain; 1 from exhaustion; 1 from inflammation; 3 from suppuration of the tumor; and in 5 cases the causes of death is not given."

H. King. Mr. King had collected numerous facts on the subject at my request, and I still hope to make good use of his labours. But for the initiative thought, and my friend's diffidence, his name ought to have taken the place of mine at the head of this chapter, which, however, has gradually expanded.

* American Journal of Medical Sciences, July 1845.

† The Table, which I have taken some pains to test, does not verify this number:—I make it the 28th.

TABLE.

| Bleeding safe. | Bleeding fatal | Day. | Ligatures separated safely. | Ligatures separated, died later. |
|---|---|---|---|---|
| 1 | 1 | 4 | | |
| | 1 | 7 | | |
| | 1 | 8 | | |
| | 1 | 10 | 1 | |
| | 1 | 11 | 2 | |
| | 1 | 12 | 5 | |
| | 1 | 13 | 3 | 1 |
| | 1 | 14 | 1 | |
| | | 15 | 2 | |
| 1 | | 16 | 2 | |
| | | 17 | 3 | 1 |
| 1 | 1 | 18 | 2 | |
| | | 19 | 1 | |
| | | 20 | | 1 |
| | | 21 | 1 | |
| | | 22 | 2 | |
| | 1 | 25 | | |
| | | 27 | 1 | |
| | 1 | 29 | | |
| | | 31 | 2 | |
| | | 43 | 1 | |
| | | 47 | 1 | |
| | | 85 | 1 | |
| 3 | 11 | | 31 | 3 |

A brief consideration of this table will supply a clear idea of Dr. Norris's results concerning hæmorrhages and the separation of the ligatures. In the first column are placed 3 instances of bleeding, which did not prove fatal. These may be assumed chiefly to have resembled the most commonly known occurrences of the same kind, viz. moderate arterial hæmorrhage, arrested by simple treatment and good constitutional powers. The last two cases in this 1st column may be called decidedly late bleedings, and such are by far the most hopeful.

The fatal bleedings are shown in the 2d column of the same table. These are 11 in number: but I have to state that a rigid examination of the cases concerned give at least 2 or 3 additional examples, wherein death, however, followed from still more serious causes. The 1st bleeding was fatal on the 4th day, the 2d on the 7th, and so on. It need not be shown that for the most part the hæmorrhagic cases hold out at least a day or two. A case of bleeding fatal on the 18th day was one of repeated bleedings from the 7th day; that fatal on the 25th day lasted 4 or 5 days.

It must be admitted that the instance fatal on the 11th day was seriously complicated with visceral inflammation, although bleeding had gone on from the 8th day; and the last 2 cases in the column fatal on the 25th and 29th days, may be said to have had anarrow escape of complete recovery—at least, so far as the ligature was concerned, although both evinced considerable fixed disorder of constitution. The last fatal bleeding began on the 28th day as a sequel of erysipelas.

The preceding would appear to lead to the conclusion, that the serious hæmorrhages began almost entirely before the 12th day. It may be supposed that the non-fatal bleedings set down in the 1st column for the 4th day, and which was also repeated on the 5th, almost belongs to the cases in our 2d or fatal column,* and it may be fairly inferred that the fatal hæmorrhages are not fewer than the table demonstrates.

The third column gives the days on which the grand events occurred. The fourth relates to the manifest separation of the ligatures.

On the 10th day only one ligature came away; on the 11th, two: but, observing the dates of the fatal hæmorrhages in Column 2, these almost solitary and in a manner premature events would seem to have been very nearly cases of hæmorrhage; 5 ligatures came off safely on the 12th day, 3 on the 13th, and so on. The 5th column presents only the minor facts of the safe separation of a ligature on the 13th, 16th, and 20th days, the patients sinking at a later period from remote causes.†

* The complete separation of the ligature was probably subsequent.

† I am indebted to the precision and zeal of an able friend, Mr. H. Hales, for the discovery of an error in Dr. Norris's table, which is rather more adverse with reference to my arguments than to Dr. Norris's great carefulness.

It appears that one safe ligature came off on the tenth day (Dr. N. says the twelfth). The patient was a healthy temperate man, æt. 35, with a very large aneurism. The "serre-nœud" was used to enforce the tightening of the ligature! (Todd, Dublin H. R. iii. 472.)

Again, the Leçons Orales (1839), to which Dr. N. has not had access, enable me to correct the statements relative to Dupuytren's two cases. I have transferred the successful separation of a ligature from the 15th to the 11th day on my Tables; and finding that the fatal case bled from the 4th day, I increase my second column by one. The man was aged 38. Nerves were included in the ligature, and the middle scalenus was "un peu intéressé." Tying the first knot caused fearful pain, but it would seem to have been too much

By another method of calculation Dr. Norris's admirable Table will fairly justify the statements which follow. The mean time of death by bleeding is 14½ days after applying the ligature; this brings the *incipient* hæmorrhage to about the 10th day. The mean day of three hæmorrhages not fatal was the 13th. The mean time for the separation of the ligature in the successful cases was the 16th day.

It may be extremely easy to give a different expression to every one of the particulars, which, for the sake of simplicity, I shall reduce to 5 simple numbers. At all events, we must infer that a certain critical day is to be pointed out preceded by dangers, and followed by comparative security, quoad the operation. In short, there is a time before which the only separation of ligatures is hæmorrhagic, and pretty certainly fatal. There is a later period when bleedings are few and much more hopeful; and again, one when the process of detaching the ligature is harmless. We may admit that more facts and more experience ought to correct these generalizations, but we hope that many will grant both truth and force to the deductions—

That the 12th is about the critical day.

That about 11 fatal hæmorrhages precede this period.

That about 3 safe hæmorrhages follow the same period.

That after the 12th day all the separations of ligatures are safe.

The residual facts of deaths from various constitutional causes will be found very closely represented by the number 22, including probably an hæmorrhage or two.

As far as we have at present gone, there appears to be a time beyond which hæmorrhage is but little to be expected; and although sometimes no repair can be attempted, later bleedings are, in the main, more hopeful. We have found nothing whatever to indicate one evil from too loose a ligature, or from one retained beyond the ordinary periods of separation. We must conclude that the tightness of the ligature regulates in good part the rapidity of the separation; and that a somewhat tardy process of securing the vessel is vastly in favour of the natural powers, and of judicious endeavours to reinforce the constitution. We ought, of course, to look for a certain proportion of late and serious bleedings when the ligature has acted with its utmost of safety; but their characters will be found specific enough. It will be a prime object of consideration to inquire how it happens that, in the course of tolerable repair after ligature, hæmorrhage once established may become fairly stayed. The distension is within the tube, the resistance fails at the orifice. The first declines, and the latter prevails. That essential power of contraction which tumid organizations and new growths possess, seems to be the final curative means at the precarious crisis. A proper attention to this effort may obviate new dangers and fresh operations. We should ever fear lest loss of blood, or even a purgative, may lead to absorption or ulceration. It is bad enough only to retard the reparative closure of the wound. A fortnight's abstinence may bring one near to atrophy, if not to ulceration.

After a fuller review of facts, we may better inquire how far the events are affected by the state of the blood—its quality, quantity, and tension.

I next propose to offer some particulars concerning the ligature of other great vessels, and the main results, which will not be found less corroborative of my present position, although I shall endeavour in good part to present them as illustrations of ulterior points.

[To be continued.]

to undo it. There is a doubt whether the impulse in the sac was extinct. The 8th was the fatal day. The date seems 1819 for both cases, and in each the anterior scalenus was divided.

## SIR THOMAS BROWNE ON THE INCREASE OF DISEASE.

Some will allow no disease to be new; others think that many old ones are ceased; and that such which are esteemed new, will have but their time: however, the mercy of God hath scattered the great heap of diseases, and not loaded any one country with all. Some may be new in one country, who have been old in another. New discoveries of the earth discover new diseases; for besides the common swarm, there are endemical and local infirmities proper unto certain regions, which in the whole earth make no small number; and if Asia, Africa, and America, should bring in their list, Pandora's box would swell, and there must be a strange pathology.

## ON WOUNDS AND INJURIES OF THE SCALP AND FACE,

*(With Cases).*

By William Brown,
Surgeon, Callington, Cornwall.

It is an old remark, that no injury of the head is sufficiently slight to be despised, or sufficiently severe to be at once laid aside in despair. Much of this uncertainty in the results I believe to depend on the treatment of the cases. In ordinary cases of bruised and lacerated wounds of the scalp, sufficient attention is not given to cleansing the wound and removing the hair before applying adhesive-plaster The wound with the surrounding parts becomes much tumefied, and copious suppuration takes place. At length there is an excess of flabby granulation, and some weeks elapse before it is healed, when this might have been accomplished in 36 hours. I have been surprised in several cases lately to find bruised cuts of the scalp, two or three inches long, and very near each other, on the same head, get perfectly united, be quite dry, and without tumefaction, in the time mentioned—indeed cured; requiring only, if anything, a mere placebo, or else some application to protect the line of union. The way in which I proceed is to cut off the hair for a large space around the injury, then thoroughly wash and bathe the parts with warm water, examine the wound completely to the bottom, and sponge it almost as freely internally as on the surface: and besides this, I take a razor and shave the part. Having cleansed away all hairs,—the tumefaction, by the free bathing, &c., having gone down, and the surfaces of the wound having been brought into the condition of fresh surfaces, I put on as few strips of adhesive plaster as can well be made to suffice, attend a little to general treatment, and the case does not require a second dressing. The following is an example: although *more* interesting in another point of view—in regard to nose and hare-lip surgery. It shows the immense amount of force the arch of the skull is capable of resisting, when the violence is not applied laterally.

John Barker, a tolerably sturdy man, about 35, a miner, was at work underground in the great Holmbush mine, on the night of the 30th of October, when, while he was stooping down, a mass of earth came upon the back of his head, and drove him to the ground with his face downwards.

He was a long time in being brought to the surface, was very wet, &c.; and when he came up he was shivering violently. He wished much to be allowed to lie down. Having made a cursory examination, and attended to his immediate wants, I had him conveyed to his home; his feet were then bathed in hot water, dry linen was put on, and he was placed in bed.

The nose was completely divided, as also the upper lip, except its very border. The division commenced close up to the inner angle of the right eye, and extended down a little to the right of the middle line of the nose, though detaching the columna nasi as completely from the left ala as the right: it then passed through the mesial line of the lip to its free edge. The edge itself, however, was cracked at two or three points a little *distant* from the line of the main wound. The two left incisor teeth were knocked out and lost. The hard palate was *cloven all the way back*, to the width of at least the third of an inch. The columna nasi and continuation of the septum were left standing up as a ragged frill or ridge. The sides of the nose I could lay quite apart; and did, while I leisurely sponged out the cavities. The eyelids, especially of the right eye, were swollen so as to be scarcely capable of being opened. They soon became very black. There were other slight injuries about the face.

Having thoroughly cleaned and well bathed the injured parts of the face, I introduced a twisted suture deeply through the wound of the lip. I then had three interrupted sutures along the nose: one near the root, one just below the situation for the extremities of the ossa nasi, and one at the apex, fastening the columna, &c.—a twisted suture not being required or so easily applied here. Two or three little slips of adhesive plaster were applied at some intermediate points. A bit of lint dipped in warm water was then laid along the course of the wound, and kept moist.

The head was found to be very considerably cut behind, in two principal transverse wounds, one above the other. They did not quite reach the cranium, however, though deep. There was much tumefaction, much bruising, much dirt, &c. These wounds were dressed in accordance with the practice mentioned at the commencement of this paper.

Oct. 31st—Patient doing well. Been able to swallow a little tea, though with difficulty. To take an aperient in the evening—one without mercury, partly because he could not swallow anything thick.

Nov. 1st—Wounds on the head perfectly united; without tumefaction, without anything like matter. A little too much re-action now. Eyelids and face generally still much tumefied. He can now get down a small quantity of gruel.

I took off the small strips of plaster from the nose and cleansed the wound gently. It has united most satisfactorily.

To take a purgative or two, with calomel. Continue the poultices across the eyes, with fomentations in the intervals.

Nov. 2nd—Removed the three interrupted sutures, as also the needle from the lip, but left the coil of silk of the twisted suture remaining.

Nov. 3rd—Removed the silk also; and cleaned all parts as well as possible.

The healing went on rapidly and most favourably; and the fissure in the palate gradually became obliterated. The reparation *within* the nose was, of course, less rapid. The nostrils having necessarily become blocked up by lymph, after the first apposition of the parts of the nose, were a considerable time in becoming cleared and in regaining their functions; though, almost from the first, by a forced effort, the patient could draw in a little air through them.

The nose is left somewhat flattened and hollow towards the left side, at about the point of junction of the cartilaginous with the osseous part; and the columna is rather short and bent towards the left ala: in other respects there is no deformity.

The following case likewise may be deserving of notice, partly on account of the great importance usually attached to *exposure of the cranium*. Mr. H., a short, stout, sanguine, lymphatic person; about the age of 30. On September the 9th, he was assisting in fixing the timber-work of the roof of a new farm-house; when he fell through, upon a mass of rubbish and stones collected in the interior of the building. The fall was broken, however, by the back of his head striking against a thin projecting stone of the rough wall. When I came to him, he was still faint, but sensible. He had received a severe bruise across the back, this being the part which received the final shock on the heap of stones. But the worst injury was a transverse wound of the head, three inches long, situated just above the superior occipital curved line or transverse ridge. It had been received from below upwards, so that it was slanting upwards to the extent of an inch and a half before reaching the bone. The upper lip, or the *flap* of the wound, in particular, was much tumefied. There were some other slight cuts upon the head. The skull was completely naked for at least half of the length of the wound. At one point the surface of the bone was injured by the immediate forcible contact of the stone. I traced the probe all along the denuded part.

The head was dressed pretty neariy acording to the plan before laid down. A thin cap was put on the back of the head. The pillows were arranged so that the upper part of the body was well elevated.

In the evening he had a cathartic; followed by an aperient antimonial mixture.

Sept. 10th—Eyes a little irritable, with some heat and pain of the head. The bowels have acted well. Venesection to fourteen ounces. A saline diaphoretic mixture at regular intervals.

Sept. 11th—Wound united in its whole length, and not much tumefaction, even above the line of union.

To continue the mixture.

Mr. H. required attention, and little light treatment, general and local, up to the 19th: on the 15th there was a slight puffiness at one spot, corresponding to the point of most injury to the skull; but it was from the subsidence of the tumefaction: no pus formed.

At the present moment I have a fresh case, where a large wound of the scalp has required only one dressing: it was healed within the thirty-six hours.

And yet this poor man, besides the wound mentioned, was almost covered with bruises, to say nothing of a fracture of the left thigh, and a fracture of the right wrist; the latter consisting in an oblique breaking off of a small part of the radius, whereby the main portion of this bone was detached from its articulation with the ulna, &c. The man, first falling three fathoms from the surface work of a mine to the ground, at the edge of the shaft, then dropped into this and descended thirteen fathoms more, amidst pump works, ladders, castings, &c., that nearly filled the shaft. I could adduce several other instances of scalp wounds, equally in point. For it may be mentioned as a general fact, that miners, in their accidents, are more liable to wounds about the head than any other part of the body, excepting, perhaps, the hands. It may further be remarked, as another general fact, that there is a striking difference between wounds in these two parts. Wounds of the hands in miners are very unfavourable for uniting. You cleanse them fully, bring the edges nicely into apposition, keep the hand suspended; but on seeing the case again, you find much swelling, and this extending for a considerable distance; much heat and pain, with abundance of pus following the removal of the dressing. You then have to poultice; and it is not until after some time, until the parts have been excessively soaked, and the thick horny cuticle gets loosened and comes away, that the wound begins, flabbily and slowly, to granulate and heal.

Returning, for an instant, to the first case described in this paper, two points present themselves for notice: 1st, that if the hard palate had not given way as it did, injury must have accrued to the base of the skull, with probably fracture and crushing of the delicate ethmoid bone. 2nd, that the case presents a great contrast to the cases of operations about the nose, operation for new columna nasi, or the operation for hare-lip, as witnessed in hospitals. In such cases there is the greatest anxiety lest there should not be union by the first intention. So much is said about the necessity for making clean incised wounds, &c. And even in common operations for the removal of tumors, in hospitals, especially of fatty tumors, it is far from unfrequent to have suppuration taking place in the cavities, and subsequent tardy healing by granulation. But, no doubt, the atmosphere of crowded hospitals is unfavourable to the healing of wounds, not to mention the bad general habits, and bad diet, of the lower classes as a body in very large towns and cities.

December, 1845.

## CASE OF GUN-SHOT WOUND. BY CHARLES COTTON, M.D, F.R.C.S., SURGEON TO THE WEST NORFOLK AND LYNN HOSPITAL.*

William Allen, aged 5, admitted about five o'clock in the afternoon. The accidental discharge of a gun laden with peas, had carried away the integuments and fleshy parts of the left cheek, completely laying open the mouth, comminuting the lower jaw, and destroying also the soft parts of the same side of the neck. The accident was said to have occurred about two o'clock, whilst playing with some boys in a field seven or eight miles distant from the hospital, and it was stated that he had vomited more than a pint of blood, and lost much besides.

The poor boy was breathing with the greatest difficulty, and with a loud noisy gurgling, accompanied also with a whistling sound, issuing from a hole in the upper and anterior part of the thyroid cartilage, where it had been grazed and wounded; the pulse was extremely feeble, the surface of the body cold, and the countenance livid and betraying much distress. Fearing lest a piece of the lower ramus of the jaw, which lay within the mouth, having only a slight membranous attachment, might partly impede the breathing, I proceeded to remove it, and with the cutting forceps divested the jaw remaining, in front, close to the symphysis, and behind, on a level with the ascending ramus, of its irregularly fractured ends. The wound in the thyroid cartilage was as much as possible exposed, and as the least obstruction still more impeded respiration, it was enlarged by a portion of it being removed, giving exit to large quantities of red frothy fluid. The unsightly and charred fleshy parts were lightly covered with lint, and an enema of brandy and beef-tea was administered. The boy experienced little or no relief, but in a few minutes after a convulsive struggle *expired*, and was pronounced to be dead, and the poor mother, who had been a witness of our little patient's sufferings, left the bed-side in a state of the greatest affliction.

Deliberating for a while, I despatched Mr. Rackham. the resident medical officer, to the surgery, for a narrow bistoury and a

* Communicated by the author.

tracheal tube; all this occupied perhaps from two to three minutes. On his return, by a direct incision from above the sternum upwards, attended with a trifling hæmorrhage, the trachea was laid bare, the rings of which to the required extent were instantly divided, and the usual curved silver tube introduced. An attempt was made, by means of a syringe, to exhaust the trachea and bronchi of the frothy mucus, which was present in great abundance; this proving ineffectual, I placed my lips over the tube, and by suction I succeeded in doing so. I then steadily, still applying my mouth to the tube, commenced inflating the lungs, and persevered for some minutes (the house-surgeon's notes say "ten to fifteen minutes;" my own give "about a quarter of an hour,") when, about to desist, I fancied I observed a convulsive heave of the chest. This encouraged me to redouble my efforts, begging Mr. Rackham at the same time to use brisk friction over the region of the heart. Warmth was ordered to the feet, &c.; irregular attempts at breathing soon followed, but they almost immediately flagged and ceased. The windows of the ward were thrown open, the mother and nurses directed to stand off the bed, and, taking full inspirations, I returned again and again to the charge, imitating, as well as I was able, natural inspiration. I continued thus striving for at least three quarters of an hour, when, sick from the mucus and stuff that had entered and adhered to my mouth, and exhausted by my exertions, I had the delight of seeing the eyes and countenance regain expression, the breathing regularly performed, the pulse established at the wrist, and consciousness and sensibility restored. The boy noticed my attentions, recognized and kissed his mother, motioned for drink, and swallowed cold water as well as the injury to the mouth would permit. The tube was retained in the wound by threads carried behind the neck and tied, and the secretion which occasionally choked it up was removed by the syringe or a feather; a worsted comforter was thrown loosely over the neck, and the temperature of the ward warmed and regulated. Our little patient turned himself comfortably upon his side, and I, after waiting a little time, left the hospital, requesting to be furnished with a report during the evening, and promising to visit him at midnight.

During the evening I received the following accounts from Mr. Rackham, whose attention was unremitting:—

8 o'clock. *Vespere.*—"Your little patient has slept a little; the skin is moist and warm: respiration through the tube easy; has taken a little arrow-root."

Half-past 9 o'clock.—"Some obstruction in the tube, which I have cleared; respiration quicker, and becoming difficult; the powers of life failing, I have given a second enema of arrow-root and brandy." Between eleven and twelve at night I visited, and was sorry to observe the poor boy oppressed with a drowsy stupor, from which there was no difficulty for a time arousing him; the skin was deadly pale and bedewed with moisture; the pulse had no volume, and the breathing was hurried, and accompanied with a sonorous mucous râle. Desiring thoroughly to cleanse the clogged up tube, I removed it, but was directly obliged, owing to the threatenings of instant suffocation, to return it. Finding no relief from exhausting the tube and breathing apparatus of the frothy mucus which much obstructed them, and that the powers of life had now been flagged to the utmost, and being unable to devise further assistance, I left the case to Mr. Rackham, requesting him to keep the tube as clear as possible with a syringe, and to repeat the enema.

The boy from that time gradually sank, and at five o'clock in the morning, several hours after the operation of tracheotomy, "again died," the system being unable any longer to withstand the shock of the loss of blood which it had received from so severe an injury.

The above case, related from the notes of Mr. Rackham, and those I penned at the time, and resembling somewhat No. 3 of the cases detailed in the able paper of Mr. Cock, in the second number of the Medical Gazette, New Series, is offered to you for insertion. It affords additional confirmation, if any be needed, of the success that *may* attend well and perseveringly directed efforts at resuscitation in cases of asphyxia. During my house-surgeoncy, in 1834-5, at the Lynn Dispensary, I succeeded in re-animating two coal-porters *immediately* after immersion, but failed in several other cases, possibly from the means employed being persisted in for too limited a period. In the present instance I was not less astonished than the by-standers, at observing the enlivening effect of a dose of warm breath on each occasion of the heart faltering, and the respiration flagging, or even ceasing altogether. The use of a less deteriorated air, or one to which a little oxygen had been added, would have been, as Dr. Clay remarks in the Medical Times of September, "very desirable if it could be procured;" but I confess that the encouragement afforded in the above narrated case will in future, regardless of an over refined chemical physiology, induce me to a pursue a similar course, aud to be guided in my exertions, like Dr. Douglas*, by no measurement of time.—*Prov. Med. Journ.* November, 1845.

* Medical Gazette, December.

# MEDICAL GAZETTE.

FRIDAY, JAN. 30, 1846.

All will agree that, in order to maintain the respectability of a profession, it is necessary that a power should be vested in some responsible body, of suspending or expelling those of its members who are guilty of flagrant misconduct. In the Church, the evil is provided for under the Church Discipline Act. In the Law, if a solicitor be guilty of gross misconduct or unprofessional dealings, a motion is made in one of the superior courts, and on proof of the offence, his name is immediately struck off the rolls. Again, if a barrister misconduct himself, it is in the power of the Inn of Court, of which he has been admitted a member, to exclude him from the profession, by disbarring him. It was doubted whether such a power existed; but on that point there can be no further question, as it has been very recently exercised by one of the Inns of Court, and confirmed by the judges, in the case of a barrister who drew up a brief for himself, and acted as his own attorney, in an action in which he was engaged as prosecutor. A similar inquiry was lately instituted by one of these honourable Societies, in the case of another barrister, who had advertised for practice at less than the usual professional remuneration, and had offered commission to provincial attorneys who might employ him. The charges were not clearly established against him, otherwise there is not the least doubt that he would have been disbarred.

Our reason for entering into these particulars, is to show, under what circumstances members of the *legal* profession may be excluded from the rights and privileges which they have once acquired. The body conferring these privileges, justly retains to itself the power of withdrawing them on proof of the unworthiness of the holder; and, indeed, such a condition is not more required for the protection of the members, than for the maintenance of the respectability of the profession in the eyes of the public. If, as we think, there are cases of misconduct which properly disqualify a man from being admitted a member of a professional body, so these, if they occur after his admission, should equally justify his exclusion. To maintain the contrary, would, it appears to us, be an act of downright inconsistency. The party not admitted a member, on certain grounds, might contend and be able to prove, that he had done nothing worse than many who were actually members; and we do not see how his right to admission under such circumstances, could be equitably disputed. We cannot here admit the application of the axiom—*Quod forsàn fieri non debuit, factum tamen valet.* There is obviously as much discredit in *retaining*, as in *admitting* men who have been guilty of gross professional misconduct.

It appears to us that a power of excluding members for unprofessional conduct, similar to that exercised in the law, should be placed in the hands of the medical profession. It is just as essential to its respectability, that all its members be free from stain or reproach, and that gross malpractices, whether towards the public or towards other members of the profession, should be, when clearly proved against the delinquent, made a ground either of suspension or of exclusion, according to the offence.

Most of the examining bodies, it is true, require, before they will admit a candidate to examination, certificates of moral conduct; and some of them, among others the Royal College of

Surgeons in London, compel the new member, on receiving his diploma, to take an oath, which runs to the following effect:—

"You swear, that, while a member of the Royal College of Surgeons of England you will observe the Bye-laws thereof: that you will obey every lawful summons issued by order of the Council, or Court of Examiners of the said College, having no reasonable excuse to the contrary: *that you will demean yourself honourably in the practice of your profession*; and to the utmost of your power maintain the dignity and welfare of the College.—So help you God."

To what extent the terms of this oath, in respect to *honourable demeanour* in the practice of the profession, are obeyed by some members of the College, we shall for the present leave to the consideration of our readers. It is well intended, but it is obviously "a mockery, a delusion, and a snare" that the oath should be taken, unless the flagrant violation of it be invariably followed by the suspension or expulsion of the offending member. We must, however, admit that it is unfortunately so worded as to allow of a very lax interpretation to easy consciences, and there is the same objection to the bye-laws of the College respecting the "misconduct of members."

"1. No member of the College shall advertise a secret method or process of cure relating to his practice as a surgeon; or put forth or publish, in whatever way, any indecent advertisement or notification relating to the said practice: and any member of the College, who may in any manner offend herein, shall be liable to removal by the Council from being a member of the College; and every member of the College, who shall thereupon be removed as aforesaid, shall forfeit all his rights and privileges as a member thereof.

"No member of the College shall advertise or publish any matter or thing prejudicial to the interest or derogatory to the honour of the College, or disgraceful to the profession of surgery; and any member of the College, who may in any manner offend herein, shall be liable to removal by the Council from being a member of the College: and every member of the College who shall thereupon be removed as aforesaid, shall forfeit all his rights and privileges as a member thereof.

"Should a member of the College render himself in the judgment of the Council disgraceful to the College, his name may be omitted in the printed lists of the members thereof."

On reference to these bye-laws, it will be seen, that the offences are loosely defined, and that the maximum of punishment, even when this is inflicted,—an occurrence which we believe to be exceedingly rare,—is the simple *omission* of the *name* from the printed list of members. In the present state of the law, this obviously amounts to no punishment at all: for injury is done to the profession by the assumption and use of the title "Member of the Royal College of Surgeons," &c. in grossly indecent publications and advertisements. Thus, then, the College appears to possess no power of inflicting a proper degree of punishment on these most unworthy members of an honourable profession. They may refuse to examine or grant a diploma to one who has already transgressed; but they cannot expel one who is guilty of gross misconduct after he has become a member. The omission of the name is obviously a mere form: it does not practically amount to expulsion. Widely different is the discipline of the Law: misconduct which would prevent a man from being called to the bar, will equally suffice to expel him from the Society when he has been once admitted.

In the numerous discussions which took place on the Physic and Surgery Bills, we do not think that sufficient attention was given to the only clause which had any bearing on the discipline and control of the profession. We here reprint the clause contained in the last

Bill, because it may still be made the basis of future legislation :—

"34. And be it enacted, That if any registered physician, surgeon, general practitioner or apothecary shall be convicted in England or Ireland of any felony, or in Scotland of any crime or offence inferring infamy, or the punishment of death or transportation; or if it shall be found by the judgment of any competent Court that any such physician, surgeon, general practitioner or apothecary shall have procured the registry of his name by any fraud or false pretence, or that any such physician, surgeon, general practitioner or apothecary has wilfully and knowingly given any false certificate in any case in which by law the certificate of a physician, surgeon, general practitioner or apothecary is required, it shall be lawful for the Council of Health, on production before them of a copy or extract of the conviction or judgment of the Court duly certified, under the hand of the proper officer of the Court, to cause the name of such physician, surgeon, general practitioner or apothecary to be erased from the register or supplemental register; and every person whose name shall have been so erased after such conviction or judgment as aforesaid, shall thereby forfeit and lose all the privileges of a registered physician, surgeon, general practitioner or apothecary, as the case may be, and shall not be entitled to have his name again inserted in that or any subsequent register, without the special license of the Council of Health, on the recommendation of the College of which he was a fellow, associate, member or licentiate, as the case may be, of any Royal College of Physicians or Surgeons or General Practitioners in any part of the said United Kingdom."

It will be seen that a power was here given to the Council of Health to erase from the register, the name of any member of the profession under the three following conditions :—1. When the party had been convicted of felony. 2. When the registration of his name had been obtained by any fraud or false pretence; and 3dly, when the party had knowingly and wilfully given a false certificate in any case in which a medical certificate was *legally* required. On a future occasion we propose to examine these provisions, and by comparing them with the rules which regulate the legal, to see how far they are calculated to maintain the honour and respectability of the medical profession.

## Reviews.

*Confessions of an Homœopathist.* Small 8vo. pp. 399. Dublin, 1846. Oldham. London: Whittaker.

This is a singular book, a sort of professional novel, which contains a somewhat amusing but painful development of the tricks resorted to by a class of adventurers, who, whatever may be their merits or demerits, have certainly caused themselves to be much talked of in modern times. More than one-half of the volume is occupied with matter which has no relation to the title; and the other half professes to contain the confessions of a repentant impostor. It is stated in the preface, that the characters and incidents described are not the mere creations of fancy, but the grouping together of realities. It may be that we have here a sketch from life; but it is, we think, obvious that it is a very exaggerated picture. *Se non é vero è ben trovato.* One of the most powerful weapons against a false system of this kind is ridicule; but in order that this should exert a proper influence on the public mind—and the book is rather intended for the reading public than the profession—care should be taken not to deal in gross improbabilities. After all, admitting that Gruber, *alias* Eisenberg, is the prototype of a genuine homœopathic practitioner, he evidently belongs to the knavish class, and his parallel might probably be found without much trouble in allopathic ranks.

The work shews that the author is a shrewd observer of human nature: the real secret of success in homœopathy is clearly developed, and the manner in which *regular* (allopathic) practitioners unconsciously add to that success, is here brought to light. If we disbelieve the incidents and events it is impossible to refuse our assent

to the truth of the principles by which they are alleged to have been brought about. We dislike a certain flippancy of style, and think that it tends to mar the success of the author's efforts; but, nevertheless, there are some strong truths put in strong language, and conveying a warning by which medical men may undoubtedly profit. Let us hear what the hero of the story has to say on the first view of homœopathy.

"Here, said I to myself, is a science, or pretended science, which demands no capital, no stock in trade, and which only requires a little mystification and the exertion of the influence of a strong will over weak-minded people, to become successful to the fullest extent *for a certain time;* and then the scene has but to be changed,—the usual advertisements and cures put forward, and lo! the gudgeons bite again, and every fish has a piece of money in its mouth. This was my grand argument; and if they would confess the truth, this was and is the convincing argument which has ever swayed my homœopathic brethren." p. 181.

We verily believe that a large number of those who have adopted homœopathic practice, have been led to take this step from entire want of success as allopathic practitioners. Like the adventurer in this tale, they have bought a degree of M.D. in some German university, as a "cover to avoid the imputation of being considered quacks." They have merely acted upon the good old motto "*quocunque modo rem*," and have cared little about loss of caste, or being considered renegades, so long as they could make their way in the world.

Our adventurer receives some excellent advice from a German homœopathist who had made a profitable sojourn in England and who admits that "his first essays were made on old ladies, such being of all others the most easily gulled, from the simple circumstance of their thinking themselves the wisest of mortals." If the truth were told, some allopathists might probably refer their first dawning of success to a knowledge of this fact. Medical practitioners may profit by the following remarks: (the italics are our own)—

"None procured more patients (we cannot accuse them of much friendship) than the regular M.D.s and surgeons of the town, and to them we owe an immeasurable debt of gratitude. *They served as our standing advertisement:* had we paid them handsomely for spreading our name and fame, they could not have shewn more zeal. *Into every house and society that they entered they sought opportunity of introducing the subject of homœopathy.* It is true it was to abuse it, and that very heartily; and exerted all their eloquence, and all their reasoning against the possibility of its efficacy. But what of that? *Their patients were unfortunately not so accessible to reason as themselves;* and so far from being convinced were they, that, storing up in their memory what the doctor said with regard to the number of people that made fools of themselves, and were humbugged by taking the advice of these quacks, they attributed the severity of this censure to envy, suspected that the regulars must be losing patients and fees; and, finally, if they did not get well in double-quick-time themselves, they were sure to desert the banner of the Collegiate Æsculapius, and enlist themselves under that of the much abused homœopathists." p. 188.

The tenth chapter, headed, "*Similia similibus curantur*," is a very good sketch of homœopathic therapeutics:—

"*Treatment.*—Diet as different as possible from whatever they (the patients) have been taking before—abundant, with from thirty to forty globules per diem. . . . . All the common complaints incident to females, are profitable and easily cured: persons afflicted with such, are never satisfied with their regular physician except he is constantly dosing them, even against his better judgment. They will do for you what they will not do for him, namely, exercise freely and take proper food, get up early, go to bed in good time, and refrain from *un*dressing themselves to go to parties at midnight. Globules and attenuations must be given in frequent doses, otherwise recovery might be attributed to your rational treatment. This must never be permitted; the exercise, diet, and all other means, must be made secondary to the globules. The distinction between the regular and you consists in this: that he is required to cure by medicine alone, and nothing further will be submitted to from him; whereas you will have perfect command over the actions, diet—nay, from the frequency of administering your medicines, over the very thoughts of your patient. Hence your success!" p. 194.

Who that has had an opportunity of witnessing the intrusion of these sleek impostors into private families, does not recognise the correctness of this picture? It conveys a sad example of human folly, and illustrates in a forcible degree the truth of the opinion, that the secret of success lies in the unreasonable views entertained by the

public on the powers of medicine to extirpate disease*. Unfortunately he who sails with the current, and flatters the vanity or prejudices of his patient, is in general sure to triumph over the honest practitioner. Even Hahnemann admitted to his friend Schubert, that the elements of his success were, *unlimited confidence* in his treatment on the part of the patient, doses of sugar and milk, and a diet devoid of all stimuli †! Every homœopathist who told the truth, and at the same time had sufficient reasoning powers to distinguish the *post hoc* from the *propter hoc*, a sequence from a consequence, would make a similar admission. We cannot suppose that any sensible man among them believes in the medicinal efficacy of trillionth or decillionth doses of any substance in nature. If there be such a man, we should as soon think of reasoning with one who contended for the existence of witchcraft, or the potency of amulets, as with him. This part of the question, therefore, may be dismissed; for we at once admit that *bonâ fide* globules and attenuations cure disease, in the same way as ten hairs taken from a fox's tail, swallowed fasting at the full of the moon, were formerly admitted to cure consumption! In other words, the *real* homœopathic medicines have all the medicinal powers of the well-known *pilulæ micæ panis* of some cautious allopathic practitioners of modern times! Here is another hint by which men may profit: our homœopathic adventurer gives the following advice to his apt pupil:—"In your general conversation with patients use the simplest terms you can devise,—this for contrast with the regulars, who are lovers of octo-syllabic jaw-luxators." p. 197. When patients are sceptical and inclined to ridicule homœopathic doses—

"It is sometimes highly useful to give them powerful doses of various highly concentrated medicines, in globules similar in appearance to all the rest, but consisting of morphia, strychnia, arsenic, corrosive sublimate, and such like; a few of these, mingled with your sugar and starch globules, will cause effects to be felt by the sceptic which will quickly overcome his disbelief: he generally makes an excellent patient, and often a good decoy-duck. Never scruple, in paralytic cases, to give strychnia largely; but never allow it to be supposed that you are giving more at a dose than the one-hundred-thousandth of a grain." p. 197.

Our worthy friend here appears to us to display his ignorance of homœopathic practice. The dose which he mentions is excessive!—it should have been set down at attenuation No. 6, or the billionth of a grain!

The pupil thus instructed visits London, but finds it more convenient to take up provincial practice. We cannot follow him through his career; it may suffice to say, that the common fate of all knaves awaits him,—in the first instance unbounded success, and ultimately disgraceful exposure. Among the plain truths which occur in this part of the volume, we must find room for one, because it affords some explanation of the success of quackery in England,—

"A circumstance, too, pleading much in my favour, was to be found in the professional rank of physicians and surgeons who attacked me: they never were men in the first ranks of the profession, consequently now that I had accumulated great wealth, I smiled at their futile endeavours, and attributed them altogether to envy: their seniors, on the contrary, were courteous to me, and did not scruple to consult with me in cases where their patients desired it, and they cheerfully acceded to the employment of my medicines in many cases. This puzzled the public—aided me—did not injure them, and did more to silence the clamours of their juniors than any other circumstance. To speak metaphorically—*the division of the profession was my vantage-ground:* it formed a chink in which, 'undique tutus,' I could snugly rest; and the more vehemently I was repelled by one party, the wider my sphere of action became, the chink more open, and the hatred of parties more intense, at every appearance of favour or countenance shewn to me. The consequence was, that vain accusation and useless recrimination between those who, by uniting, could have crushed me, proved my safeguard and defence." p. 300.

We have some doubts how far the insinuation is just, that men in the first ranks of the profession are in the habit of associating with, or countenancing the practice of these empiricist; nevertheless there is some truth in the remark, that disunion in the profession is a decided advantage in favour of the success of homœopathists, hydropathists, *et id genus omne.*

* See a case reported by Mr. Jones in our last volume, p. 122.

† See Vol. xxxvi. p. 432.

Our readers will judge from what we have said, that this book is more amusing than profitably instructive. Medical novels are very rare; but we have no doubt this will find readers among those who are opposed to homœopathy. We consider it doubtful whether it will have much effect in opening the eyes of the credulous public to the fallacies of this spurious system.

We cannot close this notice without making a few remarks upon homœopathic therapeutics, more eepecially as the Hahnemannic school may now boast of seceders in the shape of allopathic professors of medicine and pathology. That any one who has made *pathology* a study, even admitting that he was impressed with the "fallacies of the Faculty," should fly to a system which professes to treat only trivial and external symptoms, and to be utterly indifferent to the results displayed by post-mortem examinations, is indeed a phenomenon for which we can find no adequate solution. Yet such has happened in the present day, and the only consolation left to us is, that men who thus begin to change upon feeble grounds, generally complete the circle, and return to their original creed in the end. We are not going to make any comparison of the *results* of homœopathic and allopathic practice. Statistical tables may be easily made to prove any thing, according to the views of the parties by whom they are drawn up; and if mere results are to be regarded, without reference to a rational criticism of the *means* employed, it would be easy to establish, by an appeal to ancient records, that witchcraft has been most potent in curing diseases, and that the "Faculty" is bound to place all confidence in the sanatory virtues of galvanic rings and belts of modern times! The facts and experiments of the homœopathists are the facts and experiments of the wizards of old. Globules and attenuations are swallowed, and diseases are cured! Amulets and charms were worn, and diseases disappeared. We place the supposed agents in the same category, because we think it is not difficult to show that the proofs of their efficacy are the same.

If a disease be treated by so-called remedies, we have a right, in the first instance, to examine these *remedies*; and before inquiring into the results of their administration, to determine, so far as fair experience will allow us, whether from their known properties or from the proportions in which they are administered, they are likely to have any effect whatever. If it can be in any way made evident that the supposed remedies are, or must be, *ex noturâ rerum* inert, we need not collect statistical tables of the results of treatment, the question is at an end—the so-called results are *sequences*, not consequences* There is only one way in which homœopathists can be dealt with; either they adopt Hahnemann's views of the wonderful effects of infinitesimal doses or they do not. It is with the former alone, that we can deal;—the latter are a mongrel class, with whom it is impossible to argue, since they can at their option put off the coat of homœopathy and appear in allopathic costume. Let us, therefore, take a sincere Hahnemannist—one who believes, or professes to believe, that he is administering for the cure of a disease, a dose of a billionth or a quad-

* The danger of neglecting this rule is well illustrated by the absurd exposure of Mrs. Stephens's remedy for stone in the bladder. A medical man who pronounced himself cured, collected and published a large number of cases which it was alleged had been treated successfully on Mrs. Stephens's plan. Five thousand pounds were demanded for making known the composition of the powder which had wrought these wonderful cures. A portion of this sum was raised by private subscription, and the remainder was contributed by a vote in parliament. Many eminent medical men joined in the subscription. The composition of the remedy (!) on its publication in the London Gazette, was as follows. Egg-shells and snail-shells, with the snails in them calcined,—incinerated hips and haws and swine-cress, with camomile flowers, fennel, and other vegetables burnt in a different manner! What have we here, but the *calcarea* and *carbo* of our worthy friends the homœopathists! Looking at the *remedy*, we may fairly ask,—Would any person, acquainted with the principles of medicine, consider it worth his while to tabulate the results (apparent) of its administration? Is our knowledge so imperfect that we are not justified in denying, *a priori*, the probability of any good accruing from the use of such a powder? The remedies of the homœopathists, are, as we have shewn, just as absurd, and the supposed good effects from their administration in infinitesimal doses, as little deserving of our notice. The successful results of Mrs. Stephens's remedy, before its composition was known, may be set off against the results obtained in genuine homœopathic practice. After death, it was found, if we remember rightly, on inspecting the body of a man whose *cure* had been completed by Mrs. Stephens's *calcarea* 6, that the calculus had become encysted in the coats, and thus removed from the cavity of the bladder!

rillionth of charcoal, plumbago, lycopodium, nux vomica, silica, or cayenne pepper! If we mistake not, the followers of Hahnemann allege that they have found extraordinary curative effects to follow the administration of such doses of the above-mentioned substances.

It is, however, demonstrable to our reason, if there be any truth in what science has hitherto ascertained, that such doses of such substances, are *ex naturâ rerum* impossible. No art can produce them. If we have to examine a substance soluble in water or alcohol, we may, it is true, go on fractionally dividing and subdividing that substance until we obtain it in the ratio of the billionth or quadrillionth of the proportion of water or alcohol employed. It may be difficult to define the exact time required for perfect and *uniform* admixture (always *assumed* by the homœopathists), in the higher dilutions; but that is unimportant, because it is still conceivable, that a soluble body may become ultimately diffused through a decillion of parts of water (*i. e.* in a decillionth proportion), as well as through a hundred or a thousand parts: and we will give to homœopathists the benefit of a supposed uniform admixture. But what are we to say of the substances in the above list—take plumbago *(graphites)* as an example, but sulphur phosphorus and numerous other bodies in their materia medica, would equally suit our purpose. We select plumbago, as furnishing probably a most striking instance of the falsity of their doctrines respecting doses. This substance is well known to consist of eighty or ninety per cent. of carbon with a residue of oxide of iron, silica and alumina. Solid substances are directed, in homœopathic pharmacy, to be triturated with sugar of milk in a certain proportion: one grain of this compound is then triturated with another proportion of sugar of milk, and so on to the third attenuation or a millionth part. Now admitting that any degree of trituration in any conceivable time, could so mix plumbago with sugar of milk, that each grain should contain one millionth part and no more — a large demand upon our faith, it is impossible to understand how a higher degree of dilution than this can be obtained. We are told that the substance is then to be dissolved in equal parts of cold water and alcohol, —and single drops of the solution successfully diluted, until the requisite degree of attenuation is obtained. All this appears very satisfactory, except to those who know what plumbago is,—and its chemical relations to other substances! The first difficulty is, that the substance is utterly *insoluble* in alcohol, water, or any menstruum. It is very true that solubility is only a relative term, and that substances which are not soluble in masses, become soluble when in a fine state of division and largely diluted with water. Analogy of this kind, however, entirely fails; for such a property cannot be fairly predicated of any substance in which it cannot be demonstrated to exist; and without this demonstration no chemist will be satisfied with a mere statement appealing either to his faith or his credulity. We know of no better reason for this alleged *measurable solubility*, at a particular point of division, of an originally insoluble body, than that the homæopathists say so, and as this is a complete petitio principii we reject it accordingly. If assumptions like these are to be substituted for facts, we might as well admit as physical truths, the feats performed in the days of witchcraft and sorcery. The necromancers of old only required unlimited faith in their statements; but the day is gone by for these absurdities, and men now look for something in the shape of demonstration. Even admitting that plumbago did become soluble after extreme division, how is its *degree* of solubility to be measured; and unless there be the most exact measurement, what becomes of these posological dogmata?

Some of these globules, which a distinguished homœopathist who had been in the habit of prescribing them assured us contained sulphuric acid, have, to our knowledge, been submitted to strict chemical analysis. Not a trace of that acid could be detected in them, although the chemical tests for it are well known to be exceedingly delicate. If we are to be told that the quantity was less than chemical tests could detect, we should reply by asking how it could be ascertained that any sulphuric acid was there present, or that it entered into the composition of the globules! There is an old

maxim, which we consider ourselves here justified in applying—"De non existentibus et non apparentibus eadem est ratio." We know nothing of the existence of substances except by a demonstration of that existence in a palpable form to the senses. Unless we act upon this rule, we shall be led into the rank absurdity of admitting that a material thing exists when we can offer no proof whatever of its existence! Such a mode of reasoning is a gross outrage upon common sense.

The therapeia of Hahnemann furnishes a glaring instance of the *idola specus* of the illustrious Bacon. It is based throughout upon the *argumentum â rebus non existentibus:* and yet this great deluder had the vanity to call it the "Materia Medica pura," and his system, the "Novum Organon!" It professes to be based upon induction, while in theory and practice it would be difficult to point to any system which presents a more flagrant violation of the doctrines of the Baconian philosophy. We have examined the rules upon which his professedly minute doses are prepared and administered; and have, we think, demonstrated that the medicinal properties of *graphites*, or plumbago, to take this as one example, are the mere creations of fancy; and, as infinitesimal doses are one of the great features of the system, we are inclined to say, when this treatment is *bonâ-fide* carried out, "falsus in uno falsus in omnibus." If the means employed by the homœopathists to cure disease be no means at all, it appears to us, as we have already stated, to be quite unnecessary to examine the results of their practice*.

They may continue to give aconite 6, and mercury 12, and they may succeed in persuading their dupes that good effects follow from impossible doses of insoluble and inert substances, but this will not alter their position with those who come after us; and as we now ridicule the effects attributed to witchcraft in a bygone age, so will our descendants find amusement in the facility with which the present generation has allowed itself to be deceived by absurdities of this kind. Hahnemann was, in our view, a striking example of those whom Bacon denounced as having mistaken the true end of science, — which is *to enrich human life with useful arts and inventions;* whereas, like some philosophers of old, he appears to have made it his chief object to be at the head of a sect, to aggrandize his own fame, and to gain dominion over the minds of men.

## Proceedings of Societies.

### ZOOLOGICAL SOCIETY.

HARPUR GAMBLE, Esq. M.D. in the Chair.

PROFESSOR OWEN communicated his observations on the living *Echidna*, or *Ornithorhynchus Hystrix*, of Sir Everard Home, exhibited at the menagerie of the Society in May, 1845. The animal when received at the Gardens was active, and apparently in sound health. It was placed in a large but shallow box, with a deep layer of sand on one-half of the bottom; the top covered with cross-bars. The animal manifested more vivacity than might have been expected from a quadruped which, in the proportions of its limbs to the body, as well as in its internal organization, makes the nearest approach, after the Ornithorhynchus, to the Reptilia. In the act of walking, which was a kind of waddling gait, the body was alternately bent from one side to the other, the belly was lifted entirely off the ground, and the legs, though not so perpendicular as in higher animals, were less bent outwards than in lizards. The broad and short fore-paws were turned rather inwards; the hind-feet had their claws bent outwards, and backwards, resting on the inner border of the sole. The animal was a male, and the tarsal spur smaller and sharper than in

* As a specimen of homœpathic induction in a semeiological point of view, we quote the following from competent authority: — Lycopodium cures and causes,—"attacks of teasing pain in the top of the head, in the forehead, temples, eyes, and nose; headache in the exterior of the head during the night; piercing and scraping pain; suppuration of the eyes; *disagreeable impressions produced by organ-music: warts in the nose:* ulcerated nostrils: *repugnance for brown bread:* risings of fat: canine appetite; dry, snoring cough: nocturnal pain in the elbows: cramps: *a turning back of the toes in walking:* itching: old ulcers of the legs: painful pluckings of the limbs: thoughts preventing sleep: a capricious and irritable temper; morose, uneasy state of mind; *a tendency to seek quarrels,*" &c. Here is a specimen of the new philosophy, which has been styled by its inventor the "Novum Organon"! Earnest seekers after truth are generally anxious to discover *adverse* as well as favourable instances, in order to be fully assured that there is no fallacy in their conclusions. Thus, it would be a great satisfaction to know whether *Brickdust* 6, would not remove "the disagreeable impressions produced by organ-music," "a repugnance for brown bread," or "a tendency to seek quarrels," as readily as *Lycopodium* 3. This might at any rate furnish important negative evidence, and would serve to throw some light upon homœopathic semeiology!

the Ornithorhynchus, projected backwards and outwards, almost hidden by the surrounding coarse and close hair. The small eyes gleamed clear and dark; the ball was sensibly retracted when the animal winked, which it did frequently. It commenced an active exploration of its prison soon after it was encaged: the first instinctive action was to seek its ordinary shelter in the earth, and it turned up the same rapidly by throwing it aside with strong strokes of its powerful fossorial paws, and repeating the act in many places, until it had assured itself that the same hard impenetrable bottom everywhere opposed its progress downwards. The animal then began to explore every fissure and cranny, poking its long and slender nose into each crevice and hole, and through the interspaces of the cross-bars above. To reach these it had to raise itself almost upright, and often overbalanced itself, falling on its back, and recovering its legs by performing a somerset. I watched these attempts of the animal to escape for more than an hour, and it was not until it had got experience of the strength of its prison, that the Echidna began to notice food which had been placed there.

This consisted of a saucer of bread and milk and some meal-worms. The milk was sucked or rather licked in by rapid protrusion and retraction of the long red cylindrical tongue. The tongue came more than once in contact with the larvæ, which were sometimes rolled over by it, but no attempt was made to swallow them.

The moist, dark end of the nose felt cold to the touch. The temperature of the animal at the cloaca was 85° Fahr. or nearly ten degrees lower than that of the anus of a rabbit.

The Echidna offered little resistance when seized by the hind-leg, and lifted off the ground, and made not the slightest demonstration of defending itself by striking with his hind spurs; the only action when irritated was to roll itself into a ball, like a hedgehog — the bristles being then erect. This was the position chosen for sleep, but our Echidna showed little of that sluggishness which the French naturalists ascribe to their live specimen on ship-board (Voyage de la Favorite, p. 159).

The blood-discs manifested the true mammalian type in their number, size and form: they were flat, circular, averaging 1-3200th of an inch diameter: a few large ones were rather less than 1-3000th; the smallest was 1-3500th.

The circular form of the blood-discs of the Echidna was noticed by Dr. John Davy in some blood of that animal which had been transmitted to him in brine from Van Diemen's Land. More satisfactory observations had been made by Dr. Hobson and Mr. E. Bedford, on the recent blood of both the Ornithorhynchus and Echidna. I have cited these observations in my article 'Monotremata' (Cyclop. of Nat. Hist.): they show that the blood-discs of the Ornithorhynchus are likewise discoid, circular, and about 1-3000th of an inch in diameter; and the observations now made on both ovoviviparous genera demonstrate that the Monotremata resemble the other Mammalia in the form, proportional number, and florid colour of the blood-discs, which correspond in size with those of the Armadillo and the Quadrumana, but are larger in proportion to the size and weight of the body than in the larger apes and the human species.

## SOUTH LONDON MEDICAL SOCIETY.

Jan. 22, 1846.

EDWARD COCK, Esq. President in the Chair.

Mr. WRIGHT related the two following cases of fatal obstruction of the bowels.

The first, a man æt. 40, of robust constitution, first became ill on the 24th, with pain in the bowels, which increased on the following day, the day after Mr. Wright first saw him: he was then vomiting frequently, the tongue much coated, and the extremities cold; no pain on pressure of the abdomen; pulse quick and soft; intense thirst; countenance indicating great prostration; bowels not relieved for three days. Artificial warmth was applied, and after a time he was bled to ℥vj. when he fainted; blood not buffed. Purgative enemata, calomel and colocynth, and the warm bath, had recourse to without relief; afterwards croton oil. The next day he was seen by Dr Silvester, who ordered a blister to the abdomen, and Magnes. Sulpha. ℥ij in solution, with Acid Hydrocyanic ℥i. every two hours. Death, however, took place on the following day, fæcal vomiting having existed for twelve hours.

Examination, twelve hours after death:— A slight band of semi-organized lymph connected a fold of the ileum with the vermiform process of the cœcum, but did not seem to obstruct the passage of the bowels; colon and rectum empty: about one yard of the lower portion of the ileum was dilated and intensely inflamed, of a brown chocolate colour, the mucous membrane ulcerated; both above and below the intestines were normal, and the small filled with liquid fæcal matter.

Mr. Wright remarked that this and other cases induced him to believe that in protracted constipation the purgative treatment was injudicious, which should rather be directed to prevent inflammation and its consequences.

The second case—a female æt. 34, of hysterical habits, was the subject of strangulated femoral hernia seven years previously, which was reduced, and followed by peritonitis. Five years since she had a vaginal hernia in the right labium, which disappeared by the use of a pessary and the T bandage; she had habitual constipation, requiring enemata and aperient medicines. December 28th, the ordinary aperients having failed in relieving the bowels, she had vomiting and præcordial distress, but no pain on pressure; tongue clean, and no pyrexia. Calomel and colocynth, enemata, castor oil, failed in giving relief; the next morning there was pain on pressure of the abdomen, fever, furred tongue, constant vomiting, small, quick pulse, and all the symptoms of strangulated hernia. She was bled to twenty ounces, again in the evening to ten; calomel and hyoscyamus every four hours; enemata of castor oil and warm water. On the morning of the third day prostration increased, also the abdominal tenderness, and she died in the afternoon, the bowels not having been relieved. The most careful examination of the abdomen and vagina could not detect hernia.

*Examination eighteen hours after death.*—About a pint of serum in the cavity of the abdomen: the intestines pale, and glued together by remarkably pale lymph; a portion of the lower third of the ilium, of the appearance of a piece of black-pudding, lay coiled up in the pelvis, as if tied up at the ends, and strangulated by a band of the mesentery.

The author was desirous to inquire of the Society for any diagnostic symptom between the two cases related; in the first he had suspected an intussusception become strangulated, which, from the *post-mortem* appearances, he thinks did not exist.

Dr. Chevers having inquired as to the apparent strength and situation of the partly organized matter in the first case, remarked that a loop of intestine might have been strangulated by the band, the peristaltic action afterwards setting it free.

Mr. Wright was opposed to this view of the cause of obstruction, and replied that the band was slight and recent.

Dr. Chevers alluded to a case in Guy's Hospital, where the patient had symptoms of English cholera, with great depression, and, afterwards, symptoms of peritonitis. On examination, besides general peritonitis, a tract of the small intestines was inflamed, and marked with slight ulceration; the cœcum and small intestines were bound down by adhesions. not firm, but sufficient to produce obstruction; so, in the present case, the adhesion might have caused obstruction by interfering with the peristaltic action.

Dr. Hughes considered if the first case was really not one of mechanical obstruction, it was genuine enteritis, producing obstruction to the peristaltic action of the bowel, as mentioned by Dr. Abercrombie; he related a case of a person in the habit of taking opening medicine, in whom all the symptoms of internal hernia existed, and yet on *post mortem* examination no mechanical obstruction was found; the intestines being empty, with very extensive ulceration of the mucous membrane.

Mr. Harris and Dr. Munk were opposed to this view: the latter considered the superficial character of the ulceration negatived it; he alluded to the blood not being buffed and cupped in abdominal disease; the absence of the buffing should not deter from bleeding.

Mr. Hicks remarked that the first case shewed the impropriety of purgatives in enteritis; he considered the treatment by calomel and opium the best, and the introduction of a long tube for the use of enemata; agreed with Dr. Munk's opinion with regard to the blood.

Dr. Hughes mentioned a case of obstruction, with great flatulency, which was relieved by the introduction of a needle into the bowel; this plan was recommended some years since by Dr. Wetherby.

Dr. Silvester advocated the expectant plan of treatment; and in confirmation related a case where nothing was taken but barley-water for three weeks, and at last the bowels acted naturally.

Dr. Hughes inquired if the first patient had passed water, and referred to Dr. Barlow's experience on that point, that where the obstruction is high up in the bowels, no urine is passed: it was in this case stated to have been passed freely.

Dr. Merryon mentioned a case where intussusception had relieved itself, and thought whether it might not have occurred also in the present case.

Mr. Cock was of opinion that the band was the cause of death; he had seen similar bands, which after death had not shown obstruction, when the abdominal walls were opened, and general relaxation occurred.

Dr. Silvester remarked on the peculiar character of the second case, and considered the cause of strangulation was a ring of adhesive matter connected with the mesentery.

The preparation of the diseased part was shown by Mr. Wright, having the appearance described in the *post-mortem* account. A drawing also of the parts *in situ* was exhibited by Dr. Silvester.

Mr. Wright, in reply, stated that no violence could be traced as a cause in the second case.

Mr. Owen mentioned a case seen by Mr. Hammond, of Brixton, where three inches of ilium had passed through a rent in the mesentery, and become strangulated, caused

by a violent leap; the symptoms did not appear for a week; ulceration of the bowel, and extravasation of fæcal matter into the abdomen, took place, and death in two weeks.

Dr. SILVESTER inquired as to the powers of nature in getting rid of the obstruction in such cases, and

Mr. COCK related a case of Mr. Key's of strangulated hernia, where the bowel in such a state was returned into the abdomen, and a portion of intestine came away by the wound shortly after.

Mr. HARRIS also related the case of a piece of intestine, a foot long, passed by stool, and the patient recovered.

The Society then adjourned *.

## Selections from British and Foreign Journals.

### THERAPEUTICS.

#### NEW METHOD OF EMPLOYING MURIATE OF MORPHIA FOR NEURALGIA AND TOOTHACHE. BY DR. EBRARD, OF BOURG.

M. EBRARD states that he has found the following to be a very successful plan of treating toothache by frictions with the muriate of morphia.

During the paroxysm, or in the evening, some hours after a meal, the patient should take upon the moistened extremity of his finger, 13 milligrammes (one-fifth of a grain) of the muriate, and apply it for two or three minutes to that portion of the gum which is painful. Then, while inclining the head on that side, taking care not to swallow or eject the saliva which holds the salt of morphia dissolved;—he must allow free contact to take place between the saliva and the gum for five or ten minutes: this leads to the local absorption of the morphia. He may afterwards swallow the whole of the saliva. If there should be no relief, and symptoms of narcotism be absent, after a period of two hours, the application may be repeated. This repetition, however, is rarely required.

If the toothache should reappear the day following, without any abatement of the suffering, and no system of narcotism be present, the patient may employ 37 milligrammes of the muriate (about $\frac{57}{100}$, or one-half of a grain English) in two doses, with the same precautions, allowing an interval of about two hours to elapse between each dose. M. Ebrard has reported cases in which one or two applications of the muriate, in this way, sufficed to remove the toothache entirely, whether it depended on caries or simple neuralgia without any alteration in the tooth.

In neuralgia affecting the forehead, he has found a most successful method of treatment to be that of causing the patient to take, like a pinch of snuff, from 25 to 50 milligrammes ($\frac{4}{10}$ to $\frac{3}{4}$ of a grain) of muriate of morphia. Simple as this mode of treatment is, Dr. Ebrard properly advises that great caution should be used in employing this powerful agent.—*Gazette des Hopitaux*, Janvier, 1846.

REMARKS.—While the above treatment appears likely to be beneficial, and the dose of the muriate of morphia prescribed is small, we must add a word of caution respecting it. This salt produces sometimes unexpected effects in small doses. At p. 376 of our last volume, will be found reported a case, where about the $\frac{1}{13}$ part of a grain, in two doses, applied endermically, caused most alarming symptoms in an adult female; and half a grain has produced dangerous effects, although we believe that a smaller dose than three grains has not yet been known to destroy life. There will be some difficulty in preventing the patient from swallowing his saliva. On no account should the dose be repeated if there be the least sign of narcotism.—ED. GAZ.

#### ON THE INJURIOUS EFFECTS OF THE SIMULTANEOUS ADMINISTRATION OF CALOMEL AND COMMON SALT.

A MAN affected with cerebral fever was treated by venæsection and leeches. He was then ordered occasional doses of calomel, with an enema composed of a decoction of senna and a table-spoonful of common salt. The patient was in an alarming condition, but it was not anticipated that he would die speedily. Death took place, however, the same evening. The body rapidly putrefied, and presented large spots of ecchymosis. Bichloride of mercury had evidently been formed by the re-action of the two salts on each other! This fact is too important not to call for the serious attention of medical practitioners, and it imparts additional strength to the opinion, that calomel and common salt should not be given to a patient within short intervals of each other.—*Journal de Pharmacie*, Janvier, 1846.

REMARKS.—We believe this *fact*, reported by our respected contemporary, to be one of those *post hoc* conclusions which are so common in therapeutics. If the calomel (in large doses) and common salt had been mixed together and thrown into the stomach, if symptoms of poisoning by corrosive sublimate had then supervened, and appearances similar to those produced by that poison had been found in the body,

* Erratum in last report:—Dr. Chevers' case mentioned of a gallstone as large as a cocoa-nut, should be stated to have been discovered after death "in the common duct," and not "in the gall-bladder."

if, in addition to these circumstances, corrosive sublimate had been clearly detected in the stomach, there might have been good reason for attributing death to this cause, 'and not to the cerebral fever." But what are the facts? Small doses of calomel enter the body by the stomach, while the common salt enters by the rectum; there was no evidence of poisoning, so far as the report goes, either during life or after death, nor was corrosive sublimate found in the body! The chemical change referred to, does take place, but only to a very minute extent, even when the substances are mixed together. The mixture requires exposure to a much higher temperature than is ever found in the stomach, to produce corrosive sublimate in perceptible quantity.—Ed. Gaz.

## Correspondence.

### ON UTERINE HÆMORRHAGE AFTER THE EXPULSION OF THE PLACENTA. BY GEORGE HARVEY, ESQ., SURGEON.

Sir,—I have just read in your last week's Gazette (January 16, 1846) a very able article on the Uterine Hæmorrhage after Delivery, by Mr. J. R. Pretty, which proves not only the great attention he has paid to the subject, but the correctness of his ideas as to its cause. The ingenulty he has displayed in the construction of a belt and pads, very well suited for the support of the uterus, must be generally admitted; but, notwithstanding this, I must beg leave to offer for the consideration of the profession, a method which I have several times practised with complete success, and which I think will be preferred, even by Mr. Pretty himself, as answering every purpose, and not requiring any machine or apparatus to be carried in the pocket, all that is needed being easily obtainable in every house, and at all hours.

Suppose, for instance, hæmorrhage to an alarming extent occurs immediately after the expulsion of the placenta, I instantly turn the patient on her back, and grasp the uterus firmly with my hand, through the abdominal parietes, till I feel it contracting. Then take a small bowl or basin capable of containing twelve or fourteen ounces, and having a thick, smooth edge; this basin I invert over the body of the compressed uterus, taking care that the whole of it is compressed within the cavity of the basin. I now confine it steadily by a towel folded lengthwise, and passed under the hips of the patient, from right to left; then brought up over the basin, and secured by three or four strong pins. Or in lieu of the towel, two strong silk handkerchiefs may be used in the following manner:—Let each handkerchief be folded, separately, as a man folds his neckcloth; fasten them together at one end by a reef-knot, allowing the other two ends to remain free; pass the reef-knot under the hips of the patient, from right to left; bring it up over the basin, which should be firmly pressed down by an assistant. Now take one of the free ends, and pass it through the loop, or bight, as a sailor would term it, formed by the reef-knot; draw it firmly down, and with the other free end tie a slip-knot exactly as the tapes are tied round the splints for securing a fractured limb. Thus confined, it is impossible the uterus can be again distended, and any further hæmorrhage must appear externally. Perhaps it will be as well to place a thin, soft napkin, or allow the patient's under-garment to remain between the surface of the abdomen aud the basin, to prevent the possibility of its acting as a cupping-glass.

Your obedient servant,
Geo. Harvey.

Castle Hedingham, Essex, Jan. 22, 1846.

## OBITUARY.

Of tubercular disease of the lungs, on the 11th ult., Dr. Edwin Harrison. He was born in the year 1789, and was originally intended for the law. At the age of twenty-two, however, he began to study medicine in Edinburgh, and took his degree of M.D. at Paris, in 1829. He succeeded Dr. Sims as physician to the St. Marylebone Infirmary. He has left behind him some papers, consisting chiefly of cases, with a few remarks and diagrams; these have been put into the hands of Mr. Houlton, by his trustees, and some of them will probably be published before long.

It is with sincere regret that we this day record the death of Dr. Alexander John Hannay, of Glasgow,—an event which has shed a deep gloom throughout the wide professional circle in which he moved, and among the numerous friends and well-wishers whom the many excellencies of his character had drawn around him. Dr. Hannay received his medical education chiefly in Edinburgh. He afterwards studied in Paris, at a time when medicine had just received many signal improvements from the hands of Laennec, and the other eminent men who then adorned the French medical school. In all the private relations of life, those who knew Dr. Hannay best, esteemed him most. His manners were courteous and affable;—his temper kind, generous, and benevolent. The sick poor have lost in him a steady friend, at all times ready to give them whatever relief his professional skill and means of assisting them could procure.

## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

FRIDAY, *Jan.* 23.—J. H. O'Sullivan.—R. Davis. J. G. Cambell.—J. Greene.—H. T. Hartnoll.—J. H. Eddowes.—T. Willmott.—J. Ryan.—A. Hewgill.—E. J. Such.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *Jan.* 22.—Thomas Benj. Horne, Basingstoke, Hants.—Thos. Brooks Bumpsted, Langford, Somerset.—Richard Penrose Bell, Yorkshire.—Samuel Gibbon, Kettering, Somersetshire.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, Jan.* 17.

| Births. | Deaths. | *Aver. of* 5 *yrs.* |
|---|---|---|
| Males.... 681 | Males.... 563 | Males.... 493 |
| Females . 689 | Females . 480 | Females . 474 |
| 1370 | 1043 | 967 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 162 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 203 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .....(Pop. 374,759) | 199 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar.....(Pop. 393,247) | 202 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich (Pop. 479,469) | 277 |
| Total ..... | 1043 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Winters; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 1043 | 1080 | 967 |
| SPECIFIED CAUSES ..... | 1038 | 1073 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 204 | 183 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 114 | 115 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 150 | 169 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 346 | 363 | 294 |
| 5. Heart and Blood-vessels ..... | 44 | 30 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 79 | 69 | 72 |
| 7. Diseases of the Kidneys, &c... | 7 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 8 | 12 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 8 | 7 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 5 | 2 | 2 |
| 11. Old Age ..... | 44 | 90 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 29 | 27 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 4 | Convulsions .... | 27 |
| Measles ..... | 51 | | |
| Scarlatina ..... | 16 | Bronchitis ..... | 77 |
| Hooping-cough.. | 63 | Pneumonia..... | 91 |
| Typhus ..... | 34 | Phthisis .....125 | |
| | | Dis. of Lungs, &c. | 15 |
| Dropsy..... | 14 | Teething ..... | 12 |
| Sudden deaths .. | 12 | Dis. Stomach, &c. | 6 |
| | | Dis. of Liver, &c. | 11 |
| Hydrocephalus.. | 40 | | |
| Apoplexy..... | 29 | Childbirth ..... | 4 |
| Paralysis..... | 20 | Dis. of Uterus, &c. | 3 |

REMARKS.—The total number of deaths was 37 below the winter, but 75 above the annual average. The deaths from Zymotic diseases, with the exception of Measles and Hooping-cough, were below the averages. In the North and West districts, the mortality was above the averages: in the others, it was below.

### ROYAL OBSERVATORY, GREENWICH.

## METEOROLOGICAL SUMMARY

*For the Week ending Saturday, Jan.* 17.

| | |
|---|---|
| Mean Height of Barometer .....29·62 | |
| „ „ Thermometer[a].....41·6 | |
| Self-registering do.[b] ..... max. 55° | min. 28·5 |
| „ in the Thames water. — 43·2 | — 39·8 |

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·05: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was 5·6° above that of the mean temperature of the month. The extreme hebdomadal range in the self-registering thermometer was 26·5°.

## NOTICES TO CORRESPONDENTS.

We agree with our correspondent Mr. Barber, that it would be a great improvement in the Registrar-General's Certificate Books (on the causes of death) if they were printed with counterparts, for the private memoranda of practitioners.

Dr. J. Campbell.—The case has been received.

Sir C. Scudamore's note has been referred to the printers.

Dr. J. C. Hall's paper will be inserted in our next.

Mr. Bartlett.—A proof shall be forwarded.

We are obliged to Dr. Warren, of Boston, for the copies of his papers.

Dr. Orpen's articles were consigned to the care of the printers many months since. Inquiry shall be made respecting them.

We regret that we have been unavoidably compelled to postpone Dr. Birkett's Clinical Report, and Dr. Allnatt's letter, until our next number.

*Received.*—Mr. Tomes.—Mr. Solly.—Mr. Bartlett.—Mr. Harvey.—Dr. Birkett.—Dr. Allnatt.—Dr. Buchanan.—Mr. Erichsen.—Dr. Corrigan.

ERRATA in last No.—At p. 136, col. 2, line 12 from top, for "membranes," read "members."—P. 170, c. 2, l. 27 from bottom, "workers in white lead," for 841 read 341.

## Lectures.

### LECTURES ON DISEASES OF THE KNEE-JOINT;

LECTURE I.

*Delivered in the Theatre of St. George's Hospital, January 7, 1846,*

BY SIR B. C. BRODIE, BART.

I PROPOSE to give you some lectures on the Diseases of the Knee-joint. I am induced to do so for the following reasons:—First, I really do not know that there is any subject in surgery with which it is more important that you should be acquainted, than this. Diseases are more common in the knee than in the other joints; they cause great anxiety to the patient, and of course to the surgeon also: and at the same time they are very much under the dominion of art. Secondly, although my principal observations on the subject have been already published in my work on Diseases of the Joints, yet they are not there brought under view at the same time: they are to be found, some in one chapter and some in another, and I think it will be useful to you for me to collect them, and bring the whole subject before you in this and the following lectures.

*Inflammation of the synovial membrane.*

The diseases of the knee-joint are various; some begin in the harder, others in the softer textures. That which is of the most frequent occurrence belongs to the latter order, being an inflammatory affection of the lining membrane.

You will bear in mind the anatomy and function of the synovial membrane. In its structure it very much resembles the serous membranes. Like them, it is a reflected membrane, secreting a lubricating fluid, for the purpose of facilitating motion. It passes from one bone to the other; it lines the lateral and posterior ligaments of the knee; it covers the crucial ligaments; it is reflected over the bones and the articular cartilages.

I shall describe, first, the appearances which are exhibited on dissection, where the synovial membrane has been inflamed. Secondly, I shall point out the circumstances under which the disease manifests itself, and the causes which produce it, as far as it is possible for us to trace them; and, lastly, the treatment which is necessary for its cure.

Although inflammation of the synovial membrane is a very common disease, the opportunities of examining the morbid appearances which it presents in its earlier stage are, for obvious reasons, of rare occurrence. However, we meet with them occasionally. When the inflammation is slight, the membrane is a little more vascular than natural, and the joint contains an increased quantity of fluid. It cannot exactly be said that there is an increased quantity of synovia, for the fluid (at least in the great majority of cases) rather resembles serum, and is more or less turbid. In other cases the vascularity of the synovial membrane is very much increased. I have known it to be as much discoloured as the tunica conjunctiva under violent ophthalmia, its inner surface being, at the same time, to a greater or less extent, encrusted with coagulable lymph. These appearances are represented in the drawing which I now shew you.

So far the appearances resemble those of inflammation of a serous membrane; but when the disease has been of long duration, a change takes place in the condition of the synovial membrane, quite different from what is ever observed in the serous membranes. It becomes thickened, of a soft pulpy consistence: the inner surface is no longer smooth and uniform, but processes of soft vascular substance project from it, in the manner of fringes, into the cavity of the joint. There is an excellent series, both of preparations and of drawings, on the table, shewing all these appearances. The drawings especially are very instructive, having been made from the recent subject previously to the parts being immersed in alcohol.

In the commencement of this disease the morbid changes are, of course, confined to the synovial membrane; in a more advanced stage these changes extend to the other textures. That portion of the membrane which covers the cartilages, though it resists the disease in the first instance, becomes affected afterwards. The cartilages themselves adhere less closely to the bone than under ordinary circumstances, and by and by they begin to ulcerate; generally on the patella in the first instance, on the femur and tibia afterwards. The appearances of ulceration of the cartilage in its various stages are represented in these drawings,

I call the process by which, in these cases, the cartilage is absorbed, *ulceration*. It seems to me to correspond, in all essential circumstances, to ulceration of soft parts. It is consequent on inflammation; and although it may proceed to a considerable extent without suppuration, it is followed by suppuration ultimately. Many facts, not only in the history of diseases of the joints, but in the history of other diseases also, justify the opinion that the secretion of pus, although the usual, is not the necessary concomitant of ulceration.

There has been, however, some question as to the manner in which the absorption or ulceration of the articular cartilages takes place. It has been said that cartilage in itself is incapable of ulceration, and that the absorption of it is accomplished only through the agency of those fringes of the synovial membrane which you have seen lying in contact with its surface. In a future lecture I shall adduce what I believe to be sufficient reasons for the opinion that this view of the subject is not well founded, and that there is no essential difference between the process of ulceration in cartilage and in other textures.

I have already stated that the fluid found in the cavity of the joint, when the synovial membrane is inflamed, is serous. In cases of a slight degree of inflammation, it is slightly turbid; in severer cases it is very turbid, with flakes of coagulated lymph floating in it. Under certain circumstances the synovial membrane will secrete, not mere serum, but actual pus. In like manner, serous membranes occasionally secrete pus, though, under ordinary circumstances, they merely secrete serum. The cavity of the knee-joint is then converted into one large abscess; the abscess being bounded in some parts by inflamed synovial membrane, and in others by the bones of the joint. I say by the bones of the joint; for the cartilages, whenever they come in contact with the purulent secretion, become absorbed.

Now let us suppose that there has been inflammation of the synovial membrane, and that it has subsided. In what condition is the joint afterwards? Sometimes the membrane is left thickened, of a gristly texture, and that may happen even where the cartilages and bones have altogether escaped the invasion of the disease. In other cases, the cartilages being absorbed, the cavity of the joint is completely filled up by the thickened synovial membrane, and the coagulated lymph effused from its surface. These parts all adhere the one to the other, and anchylosis by soft substance, in the first instance, and by bony substance ultimately, is the consequence. However, complete anchylosis does not occur except the cartilages have been completely absorbed. Where the cartilages have been only partially absorbed, a healing process is established. A kind of membrane is formed upon the surface of the bone in the place of the cartilage, and the joint retains its complete mobility. Here is a drawing exhibiting these appearances, taken from the body of a woman who was a patient in this hospital, on account of an inflammation of the synovial membrane of the knee, from which she recovered; but who was readmitted on account of another disease, of which she died, a year afterwards.

Inflammation of the synovial membrane of the knee-joint may take place under a great variety of circumstances. It may be the result of local injury, such as a punctured wound, a contusion, or a severe wrench, and then it is altogether a local disease. In other cases, and more frequently, it is produced by causes that operate on the general system, and it must be considered as a symptom of a constitutional malady. A patient, for instance, is exposed to wet and cold; this is followed by pains in the limbs; by and by one knee-joint becomes painful, swollen, and the synovial membrane is inflamed. It is said that the inflammation is consequent upon checked perspiration, and the disease is called rheumatic inflammation. I have no doubt that this explanation is correct. There is something noxious in the system that is expelled from the skin by perspiration, and hence it is that whenever the skin ceases to perspire the general system suffers. In other cases the disease occurs in a person who leads an easy life, who indulges in eating and drinking and takes but little exercise; whose urine is high coloured, depositing a sediment of lithate of ammonia, staining the chamber-pot of a red colour. I need not tell you that I am describing a gouty patient. Nothing is more common than for this gouty condition of the system to manifest itself by producing inflammation of the synovial membrane of the knee. If I were asked what is the most common cause of inflammation of the synovial membrane of this or of any other joints, in the affluent classes of society, I should answer, the gouty poison in the system: the existence of which poison is indicated by a too abundant formation of lithic acid. Many persons thus affected will not allow that they are actually gouty; nevertheless, you may be assured that a large proportion of the diseases of the affluent classes have this gouty origin. These observations are of practical importance. The origin of inflammation of the synovial membrane in the lower, is generally different from that in the higher classes; and in either the one or the other anything that disturbs the constitution may produce it; for example, the syphilitic poison, the unguarded exhibition of mercury, or general cachexia from other causes.

We distinguish acute from chronic inflammation of the synovial membrane, and it is convenient to make this distinction; yet it is one made rather for the purpose of helping us in our investigations, than because it corresponds exactly to the reality of things. There are some cases in which you say at once, here is acute, and others in which you say, here is chronic inflammation, but there are a great number of cases which lie between the two, and in which you cannot very well say that they belong to the one class or to the other.

In a large proportion of cases the character of acute inflammation predominates in the first instance, and that of chronic afterwards.

We will assume that the case is one of acute inflammation of the synovial membrane of the knee. The patient complains of pain in the joint, and it is stiff. It is very likely that the pain attacks him quite suddenly, as if a penknife had been run into the joint; but sometimes it comes on gradually: at all events, in the course of time, varying from a few hours to one or two days, the joint begins to swell, in consequence of the effusion of fluid into it. The swelling increases, he joint becomes exceedingly distended, and there is not only the pain of inflammation but of tension, and not of mere tension, but of the tension of an inflamed part. Constitutional disturbance supervenes, indicated by a frequent pulse, hot skin, furred tongue, restlessness, and want of sleep. The joint becomes tender to the touch, and the patient cannot bear to move it. Recollecting the anatomy of the knee-joint, you will know what the form of the swelling must necessarily be. The synovial membrene being distended, it will bulge out in those parts in which there is the least resistance. The ligaments behind and on the side of the joint prevent the swelling bulging in these directions, whereas the loose cellular membrane under the extensor muscles of the thigh allow it to extend up the anterior part of the thigh, so that the fluctuation of the fluid is quite distinct above the patella, the patella itself being elevated by the fluid underneath. The appearance is very characteristic, and when once you have seen it you will never mistake it. These symptoms proceed until the inflammation is subdued, either from having run its course, or by the application of suitable remedies. When acute inflammation is subdued, it generally subsides into inflammation having a chronic character.

In the chronic form of the disease there is pain in the part, but it is less in degree, nor is it aggravated to the same extent by the motion of the joint. The local symptoms of chronic inflammation are the same as those of acute inflammation, but modified in the way which I have stated; and probably there is little or no constitutional disturbance.

It is only in a very small proportion of cases that the disease proceeds so far as to terminate in ulceration of the cartilages. Where this does happen, a new order of symptoms shews itself. The pain is of a different kind: it is more intense, and attended with involuntary startings of the limb, during which the pain is aggravated. These startings are the source of great distress at night, awaking the patient whenever he falls asleep.

The constitution now suffers in another way. There is loss of flesh and appetite, with a frequent pulse, and probably perspirations at night. In short, there are symptoms of a hectic fever. Ulceration may, as I have already explained, proceed to a great extent without suppuration being established. If the destruction of the cartilage be only partial, the joint may retain its mobility: otherwise the disease terminates in anchylosis, the patient having a very useful limb, although the joint is stiff.

But here is another matter which demands our especial notice:—The patient very generally lies with the leg bent upon the thigh. It is better that it should not be placed in that position at first, but the patient very often gets it there before you are aware of it; and it is very difficult, when it is once in the bent position, to make it straight again. Now observe what happens: the synovial membrane and the ligaments are all distended, and must be all stretched, to a greater or less extent; and when the cartilages are ulcerated, very often the internal ligaments at one or other of their extremities become separated from the bone. The flexor muscles are constantly pulling at the head of the tibia, and by little and little they draw it backward, until at last it is removed from its proper place, the condyles of the femur projecting in front of the head of the tibia, and the latter being lodged in the ham. There is then dislocation, sometimes complete, but more frequently incomplete, the head of the tibia being still partially in contact with the articulating surface of the femur. Even so great a change as this may take place without suppuration. I have known many persons recover with this kind of dislocation of the knee, in whom abscess never shewed itself. In fact, abscess is not a very common consequence of inflammation of the synovial membrane of the knee, being for the most part limited to two orders of cases: one, in which it supervenes after a long period, during which the disease has been neglected, the patient walking about and using the limb in spite of great suffering; the other, in which the first access of inflammation has been of more than usual intensity, the disease going on to suppuration in the first instance.

With regard to treatment in all cases of inflammation, and I may add, of other diseases of a joint, the first and most important thing is, to keep the joint in a state of perfect quietude. In an acute attack the patient suffers so much from motion that you need scarcely give him any injunctions on the subject. This, in fact, is the method that nature adopts for the purpose of informing him that the joint should not be moved. In case of chronic inflammation, also, the pain on motion is often sufficient to produce the same effect; but sometimes it is

not, and then you must have recourse to some special means for keeping the joint in a state of repose. You may bind it up with a great quantity of diachylon plaster, and a roller over it, or with a starch bandage, either of which contrivances will keep the joint quiet, acting as a splint. But there are objections to both these plans, especially the latter. I will relate a case, which will best explain what I mean. In the case of a lady labouring under inflammation of the synovial membrane of the knee, I had applied some leathern splints to keep the joint quiet. This was just at the time that starch bandages came into use; she went into the country, and her surgeon there took off my splints, and applied a great quantity of these bandages. They supported the knee well enough; and when she came to London again, I said, "The starch bandage does very well; we will leave it on." Two or three evenings afterwards I was sent for, with an urgent message, entreating that I would go to the house as soon as possible. I went, and found my patient in a state of intense agony. She had had a fresh attack of inflammation of the synovial membrane. The knee was beginning to swell, but the starch bandage, binding the joint like an iron hoop, prevented the effusion of fluid from taking place. With some difficulty I took it off, which probably she would not have been able to do for herself, and unless it had been relieved I know not what might have been the consequence. You see the objection, then, to these bandages—which applies in a great degree to those of diachylon plaster also—that the patient cannot very easily remove them himself. The best contrivance for keeping the joint quiet is splints, made of thick and stiff leather, macerated in warm water, and allowed to dry on the part. They should be pretty broad splints, one being applied to each side of the joint, nicely adjusted to it, and kept on by a bandage. These splints, when dry, become as hard as a board, but they are easy to be worn, because they exactly fit. A row of artificial teeth is made of the hardest material—of ivory or gold; yet it is easy to be borne because it exactly fits. Make equal pressure everywhere; and these splints cannot fail to fit the parts to which they are applied, as they are moulded upon them in the first instance. They give a more complete support than can be obtained in any other way; and they have this advantage, that if the joint should swell, or the splints be uncomfortable, the patient can easily readjust them for himself, making that degree of pressure which is agreeable to his own feelings.

In a more advanced stage of the disease, when the cure is nearly completed, and it is your object to limit the motions of the joint—not because there are are any serious symptoms at the time, but lest there should be a recurrence of the inflammation—a bandage, made by Schoolbred, in Jermyn-street, may be applied with advantage. It is composed of spiral wire, enclosed between two pieces of leather, with a stiff piece of leather, of moderate thickness, behind, and laced on one side. The leather behind makes a very excellent splint, and the bandage being elastic, if the knee should swell a little, it does not matter; besides which, the patient may draw the lace as tight or as loose as he pleases. In many cases, after inflammation of the synovial membrane has subsided, and when the patient first begins to get about, it is advisable to let him be provided with one of these bandages. At the same time the heel of the shoe should be a little raised, so as to keep the knee slightly bent: this being much more convenient to the patient than the absolutely straight position.

In cases of acute inflammation it may be necessary to bleed from the arm, to apply leeches, or to take blood by cupping, not from over the joint itself, but from the neighbourhood: for the pressure of the cupping-glasses will bruise the joint and do harm, and blood taken in the neighbourhood gives as much relief as if it were taken more immediately from the part affected. With respect to the extent to which blood-letting should be had recourse to, it is impossible to lay down any general rule; but I may mention that at this day we do not for the most part find occasion to abstract blood so freely as was done in former times, because we have other means of subduing inflammation; of which I shall speak presently. When the violence of the inflammation has subsided, the patient may derive benefit from the application of blisters. The first blister may be applied not on the knee, but on the thigh above the knee, and afterwards on the joint itself. Blisters do harm when there is any very active inflammation going on, but they do great service afterwards; and they operate advantageously in two ways. First, by exciting inflammation in the skin, they draw away the blood from the synovial membrane, and lessen the inflammation there; and secondly, by causing a great secretion of serum from the skin, they in some way or another cause the absorption of the fluid from the joint, and the fluid being absorbed the tension of the synovial membrane which tends to keep up the inflammation is relieved.

I said that we had other means of subduing inflammation besides blood-letting. Of course purging and diaphoretic medicines are useful in cases of inflammation wherever situated, but I meant to allude especially to what may be called specific remedies; namely, mercury and colchicum. A gouty person sends for you with acute inflamma-

tion of the knee, the urine depositing a red sediment. You find that he has lived freely, taken but little exercise, that acid is generated in the stomach, that he has been for some time flatulent, and his bowels costive. Having taken care that he is in the first instance freely purged, you may give him 15 minims of the vinum colchici in a saline draught 2 or 3 times a day. Never give more than that, for large doses of colchicum are dangerous, and small ones accomplish all that is required. Even the latter should not be taken for more than two or three days at a time. Where inflammation of the synovial membrane depends on a gouty diathesis the effects of colchicum are sometimes marvellous. I have known patients suffering extreme agony to be completely relieved by it in a few hours. But let me repeat, for this is of importance, that you should not venture on the exhibition of colchicum in this or other cases, without previously administering purgatives, and they should also be given occasionally while it is being used. Small doses of mercury also, the blue pill for example, may be given at the same time. The tendency of colchicum is to produce white evacuations, which indicate, I suppose, a diminished secretion of bile. Of course it is not right that bile should not be secreted and evacuated, and the combination of mercury with the purgatives, at the same time that you exhibit the colchicum, prevents the injurious effects that might otherwise arise from the biliary secretion. Mercury may be administered with advantage in another way; that is, not as a purgative, not merely with a view to act on the secretion of the liver, but in larger or more frequent doses, so as to produce its specific effects on the general system. Such mercurial treatment may be often had recourse to with advantage in cases of gouty inflammation, but still more in cases of what may be properly called rheumatic inflammation. The combination of calomel with opium is a very convenient method of giving it in these cases, as it is in those of iritis. Useful as is the mercurial treatment during the active inflammatory state of the disease, it is still more useful at a later period, accomplishing that which can scarcely be accomplished by other means; as I shall explain presently.

There is no essential difference between the treatment of chronic and acute inflammation of the synovial membrane, except that in the former such active measures are not required as in the latter. Leeches may be necessary, but bloodletting from the arm is never requisite. Blisters are very useful here, and may frequently be applied without having recourse to leeches. You may employ either a succession of blisters, or one blister kept open for some time with savine cerate. In cases of gouty inflammation of the synovial membrane having a chronic character, colchicum may be exhibited as an alterative—one or two grains of acetous extract, with as much blue-pill, every night, and aperient medicine every third or fourth morning; or you may give the acetous extract, with calomel and the compound extract of colocynth, every second or third night: watching the effect of the remedies, and continuing their use for a longer or shorter time, according to circumstances. In such cases a course of the iodide of potassium in small doses, combined with alkaline remedies, may also be productive of benefit. In slighter cases of the disease, liniments that stimulate the skin, but which fall short of a blister, may be usefully employed. The volatile liniment, with oil of turpentine added to it, or the compound camphor liniment, may be rubbed on two or three times daily. The following makes an excellent liniment:—Take an ounce and a half of olive-oil and a drachm of sulphuric acid; when these are well mixed together, add half an ounce of oil of turpentine. This makes a black liniment, which may be rubbed on with a bit of lint twice daily until the skin becomes inflamed and tender. It will produce a good deal of inflammation in the skin, but not a blister. Another convenient method of stimulating the skin is to paint the knee by means of a camel's hair brush with a solution of a drachm of iodine in an ounce of alcohol. This may be omitted when the skin is tender, then applied again, and so on.

I said that mercury was useful in another and more advanced stage of the disease, when the altered character of the pain, attended with starting of the limb at night, indicates that ulceration is going on in the cartilages. Here the only remedy is mercury, and the effect of it is remarkable. Make the gums sore, and the patient, who was suffering tortures, will, in a few days, be quite relieved. If it be administered at a sufficiently early period, it will save the mobility of the joint; if it be exhibited at a later period, it will save the limb, but will not prevent anchylosis. Mercury should be given here in the same manner as in cases of iritis, or chronic inflammation of the testicle. Calomel and opium may be administered two or three times a day till the gums are sore, mere alterative doses being insufficient. It is, however, seldom necessary to continue the exhibition of mercury for any very lengthened period. I think that one of the greatest improvements of modern surgery is the exhibition of mercury in these and some other cases of ulceration of the articular cartilage. I do not know any other remedy that will answer the same purpose.

## THE SCOTCH EPIDEMIC FEVER OF 1843-4.

By John Richard Wardell, M.D., Ed.,

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[Continued from page 156.]

### No. III.

2ndly, Its History.—The first appearance of the epidemic in Edinburgh may be stated as occurring in February 1843; nor could I learn of any cases prior to this date becoming manifest in that city, although it was said to have been noticed in Glasgow so early as the month of December in the previous year. A short period elapsed before particular attention was directed to the disease in question, some physicians at the onset regarding it as an unusual form of synocha, others considering it a mild description of typhus. The numbers however, who were thus oddly affected, increasing, the uniformity of the symptoms, and these of an anomalous character, soon led the hospital and dispensary physicians into a strict inquiry as to its nature and singular characteristics. From the novel pathognomonic distinctions which it presented, it was quite impossible to refer it to any nosological classification, nor had any of the faculty in Edinburgh, not even those most advanced in years, ever witnessed a similar disorder. Sydenham, in his time, experienced no little difficulty in properly classifying the various epidemic visitations which he has recorded, because, as they occur but seldom, sometimes many years intervening between two important attacks, the life of any one individual is too brief in order to arrive at any definite conclusions from personal observation. Some of the older authors imagined, that epidemics of an identical nature returned again in the cycle of their revolution, but at uncertain periods of intervention, that being as soon as the requisite condition necessary for their generation existed in the air, an element to which they mainly attributed their origin ; but as there are many other agents besides the constitution of the atmosphere which importantly influence their production, this idea becomes fallacious and untenable.

Table No. III. shows the rapid manner in which it progressed in the Edinburgh hospitals, and by it will be seen that on the 20th March, 1843, the total number of fever patients amounted to 82; on April 3d, 89; May 1st, 95; June 29th, 117; and by July 1st, they had increased to 206. Thus did the numbers continue to become greater until November 20th, when there were no less than 478 fever cases accommodated in the Royal Infirmary and Supplementary Fever Hospitals. At this period it might, in Edinburgh, be considered at its maximum, the admissions at the hospitals affording a correct idea of its prevalence throughout the city. Upon reference to the records of the Royal Infirmary it appears that from October 1842 to February 1843, the highest monthly number varied from 53 to 74, and in the months of May, June, and July, 1842, the aggregate number of fever patients were respectively 76, 56, and 55, which if compared with the same months in the succeeding year, will show the great preponderance of the latter over the former. From July 1st, 1839, to October 1st, 1841, the total number of fever patients amounted to 2,248, including the febriculæ, the mildest form of fever. In six months, terminating on the 31st of January, 1844, there were no less than 3,162 cases of fever admitted into the Edinburgh hospitals, and innumerable applicants during that period were refused admission. Such an exceedingly great demand for accommodation in the public institutions of the Scottish metropolis is, perhaps, without a precedent at any previous period. The monthly average of admissions during the time when it was most prevalent varied from 531 to 638. I will here, however, insert the following table, that I copied from the books of the Royal Infirmary, for Dr. Alison, and which the Professor inserted in his pamphlet, published on the epidemic, in May 1844.

The numbers admitted into the hospitals each month respectively, from September 1843, to April 1844, with the previous average :—

| 1843. | No. admitted. | Previous average. |
|---|---|---|
| September | 531 | 87 |
| October | 638 | 98 |
| November | 586 | 121 |
| December | 544 | 130 |

| 1844. | |
|---|---|
| January | 465 . . 129 |
| February | 300 . . 90 |
| March | 256 . . 93 |
| April | 93 . . 77 |

In July one or two extra wards were opened specially for fever, and quickly filled; the applications for admission were every day more numerous, and it became obvious to the managers of the Royal Infirmary, that unless some steps were taken for additional accommodation, the calls of the many applicants who thronged the waiting-room would have to be unavoidably deferred or altogether denied. Under the unwonted pressure of circumstances like these, at a meeting holden by the Board, it was resolved, that 20 or 30 beds should be fitted up in a spacious hospital, then empty, in Surgeons' Square. In two or three days these were filled, and by the 8th of August the total number of both sexes in that establishment alone was no less than 55, and in a few days subsequent to that date had increased to 85. On the 2Ist of August another house in Surgeons' Square was prepared for the reception of patients afflicted with this disease (Fever-house, B.), in which it was found that 30 beds could be put up, and this place also a few days sufficed to fill. Table No. II. gives the exact numbers in the various establishments at this period.

TABLE II.—*Fever Cases, admitted into the Royal Infirmary during the month of August* 1843.

| | |
|---|---|
| Males | 141 |
| Females | 110 |
| | 251 |

*Fever Cases, admitted into Fever Hospitals B and C, Surgeons' Square, during the month of August* 1843.

| | |
|---|---|
| Males | 62 |
| Females | 79 |
| | 141 |
| Cases in the Infirmary | 251 |
| Total | 392 |

Owing to the continuance of applications it became indispensably necessary to make even yet further provision. In the middle of September the managers entered into a contract for the building of a large shed or temporary hospital, to be erected in the grounds of the Royal Infirmary; this being of sufficient dimensions to contain 50 or 60 beds. In less than a week after its completion it also had received its complement, and on the 15th October the number which it contained amounted to 55; and the total of fever patients now in the various hospitals had advanced to 452, as may be seen upon reference to the subjoined table, which gives the exact number of fever cases on the first day of every week, from January 2d, 1843, to June 3d, 1844.

TABLE III.—*Shewing the aggregate number of Fever Patients in the Royal Infirmary and extra Fever Hospitals, on the 1st day of every week, from January 2d*, 1843, *to June 3d*, 1844, *inclusive.*

| | | |
|---|---|---|
| January | 2 | 61 |
| ,, | 9 | 64 |
| ,, | 16 | 82 |
| ,, | 23 | 80 |
| ,, | 30 | 73 |
| February | 6 | 71 |
| ,, | 13 | 76 |
| ,, | 20 | 83 |
| ,, | 27 | 80 |
| March | 6 | 71 |
| ,, | 13 | 89 |
| ,, | 20 | 82 |
| ,, | 26 | 75 |
| April | 3 | 89 |
| ,, | 10 | 85 |
| ,, | 17 | 87 |
| ,, | 24 | 87 |
| May | 1 | 95 |
| ,, | 1 | 104 |
| ,, | 15 | 108 |
| ,, | 22 | 105 |
| ,, | 29 | 117 |
| June | 5 | 112 |
| ,, | 12 | 123 |
| ,, | 19 | 120 |
| ,, | 26 | 112 |
| July | 3 | 125 |
| ,, | 10 | 135 |
| ,, | 17 | 165 |
| ,, | 24 | 198 |
| ,, | 31 | 206 |
| August | 7 | 229 |
| ,, | 14 | 280 |
| ,, | 21 | 294 |
| ,, | 28 | 306 |
| Sept. | 4 | 352 |
| ,, | 11 | 371 |
| ,, | 18 | 420 |
| ,, | 25 | 469 |
| October | 2 | 471 |
| ,, | 9 | 443 |
| ,, | 15 | 452 |
| ,, | 23 | 443 |
| ,, | 30 | 431 |

| | | |
|---|---|---|
| November | 6 | 458 |
| ,, | 13 | 467 |
| ,, | 20 | 478 |
| ,, | 27 | 465 |
| December | 4 | 471 |
| ,, | 11 | 451 |
| ,, | 18 | 470 |
| ,, | 25 | 463 |
| | 1844. | |
| January | 1 | 453 |
| ,, | 8 | 466 |
| ,, | 15 | 433 |
| ,, | 22 | 431 |
| ,, | 29 | 440 |
| February | 5 | 413 |
| ,, | 12 | 411 |
| ,, | 19 | 382 |
| ,, | 26 | 357 |
| March | 4 | 338 |
| ,, | 11 | 322 |
| ,, | 18 | 279 |
| ,, | 25 | 265 |
| April | 1 | 230 |
| ,, | 8 | 205 |
| ,, | 15 | 188 |
| ,, | 22 | 147 |
| ,, | 29 | 133 |
| May | 6 | 105 |
| ,, | 13 | 105 |
| ,, | 20 | 96 |
| ,, | 27 | 102 |
| June | 3 | 97 |

About this time a fever hospital was established in Leith for the reception of patients in that quarter; nevertheless the applications at the Edinburgh hospitals were, unfortunately, great as ever; and it not unfrequently happened that fifty or sixty tickets for admission had unavoidably to lay over until the succeeding day. There were at one time no fewer than a hundred applicants at the hospital when every ward and bed were completety filled—a circumstance probably unprecedented in Edinburgh: and from the accounts given of the fevers which visited the city in 1817-1820, 1826-1828, 1837-1838, or 1839, assuredly nothing like it occurred in those epidemics. Upon reference to the records of the great epidemics that have, during the last thirty years, prevailed in the Scottish metropolis, the numbers afflicted were never nearly so great as in the fever of 1843-4. In 1817-1819 (two years), the aggregate is stated at 2·470: in 1827 they were 1·837; and in 1828 1·862: but, as previously asserted, during the last visitation, the totality of eight months was so great as 3·162! The public dispensaries were equally inundated with requisitions for attendance upon the poor at their own homes; and those gentlemen who were in the habit of visiting them in different parts of the city gave the most melancholy accounts of the prevalence of the disease, and the utter destitution in which it had placed both individuals and families. Scarcely a common stair or house in the Canongate, Cowgate, Grass-market, West Port, and the various closes and wynds, but there the disease was present, or had recently existed. In Paisley, Glasgow, Dundee, Aberdeen, and other large towns in Scotland, similar accounts were given; and in those places, as in the metropolis, it was chiefly, if it might not be said wholly, confined to the dirty, ill-ventilated, and most noisome localities, the invariable residences of the poorest and most destitute class of the inhabitants. A gentleman who had visited Glasgow during the prevalence of the epidemic, stated that the pressure of applicants for admission at the hospital was equally great as in Edinburgh, and it there too became quite impossible to answer the innumerable calls for entrance into that institution. Nearly every close, wynd, and pent-up street of that city was the scene of the disease, and the pictures of misery presented amidst the poor who peopled them were of the most distressing description. In damp and badly-lighted cellars, where the atmosphere was loaded with humidity and impurities, upon beds of straw, with an insufficient covering, and scarcely the common necessaries of life, whole families were to be seen labouring under the distemper. Those who are far advanced in life assert with assurance that during the last half century, there never was known in Edinburgh so great a number of persons ill at one time as in the autumn of 1843. That this city has at various periods been afflicted with severe and fatal visitations of this kind is true, and the mortality may have been much greater, but the extent of misery resulting from an affection so general is almost without a parallel; and the same observation might, with equal correctness, be applied to the large towns above mentioned. The epidemic of 1817-20, when Queensbury House, in Edinburgh, was opened for the reception of fever-patients, is well remembered as

an alarming visitation from its extent of affection, yet we know that the numbers who took the disorder in the attack of 1843-4 were doubly greater than the former. The House of Refuge, and the workhouse, were, like the hospitals, overwhelmed with applications for admission; the public charities could scarcely in any manner meet the numerous calls upon their bounty, and their weekly expenditure became trebled in amount. The Destitute Sick Society, in their Report, stated as follows:—"If an overruling Providence do not interfere, an amount of outlay will be imposed on the Society which it is impossible to calculate; nor is it likely that the public subscriptions will adequately meet the pressing and still growing demands." Thus, all institutions founded for the poor and afflicted were in a like predicament from an overflow of applicants beseeching their assistance; and had matters gone on but for a little time longer in the same manner in which they progressed for several months, it is quite impossible to say how heightened would have become the scenes of misery, or what would have been the consequences.

At the close of the summer some persons offered an opinion that the disease chiefly existed amongst the Irish labourers, who annually come to Great Britain in search of agricultural employment; an argument, in all probability, ingeniously concocted by those parties who contribute little or nothing towards the general maintenance of the poor, and feel afraid lest an impartial and equitable assessment should be imposed upon them. Were well-digested legislative enactments brought into operation with regard to the poor in Scotland, there is great reason to believe that the epidemic visitations which are of such frequent occurrence in the cities and large towns of that division of the empire, would become more rare, and thus not only be the prevention of incalculable misery, but positively decrease the amount of mortality*. On reference to Table No. I. it is seen that out of a hundred and fifty patients, twenty-five only were Irish; and when it is taken into consideration that many, if not the majority, of these had come into the city in good health, and, by lodging in houses and localities where the disease prevailed (as I ascertained to be the case), had contracted the disease, the supposition that it was much restricted to, or caused by the influx of the Irish, is manifestly unfounded. That this class of individuals did not import the fever into Edinburgh or Glasgow appears very probable from the fact of the distemper having been observed in those places during the winter months—a season, above all others, at which the labourers belonging to the sister kingdom do not come to this country in search of employment. There is one circumstance, however, pretty certain, that the migratory habits of these people during the time of the harvest had not a little to do with spreading the epidemic over the agricultural districts; for it being a contagious distemper (of which, as previously stated, there were the most undoubted proofs), and their lodging amongst the poor in the various towns where it raged, the infection was thus most assuredly conveyed to remote parts. According to data collected subsequent to those given in Table I., the proportion of Irish became somewhat greater, which may be seen as under.

TABLE IV.—*Giving particulars respecting* 330 *cases of fever that were in the hospital in the month of October* 1843.

| | | |
|---|---|---|
| Scotch | 256 | 1 in 1·29 |
| Irish | 63 | 1 in 5·24 |
| English | 11 | 1 in 30 |
| Males | 159 | 1 in 2·07 |
| Females | 171 | 1 in 1·93 |
| Married | 152 | 1 in 2·17 |
| Unmarried | 178 | 1 in 1·85 |
| Natives of Edinburgh | 177 | 1 in 1·86 |
| Resident 14 years in do. | 32 | 1 in 10·31 |
| Resident 3 years in do. | 34 | 1 in 9·7 |
| Epidemic | 320 | 1 in 1·03 |
| Genuine typhus | 10 | 1 in 33 |
| True typhoid measly eruption | 10 | 1 in 33 |
| Yellow cases | 37 | 1 in 8·91 |
| Fully employed | 146 | 1 in 2·25 |
| Partly employed | 89 | 1 in 3·07 |
| Out of employ | 95 | 1 in 3·47 |
| 1 Relapse | 167 | 1 in 1·97 |
| 2 Relapses | 29 | 1 in 11·38 |
| 3 Relapses | 5 | 1 in 66 |
| 4 Relapses | | 1 in 330. |

* For information relative to the manner in which the poor are supported in Scotland, and the great need that there is for improved regulations, I would refer the reader to the writings of Professor Alison, who has so long honourably laboured, more than any individual, to ameliorate their condition, and whose name is not only held in high estimation wherever the science of medicine is cultivated, but on account of his many acts of philanthropy and unbounded charities, is justly entitled to universal esteem.

Out of 330 cases of fever in the hospitals, during the middle of October, 63 were Irish, being 1 in 5.24 of the aggregate, and eleven were English, being but 1 in 30. As the year advanced the disorder seemed to extend itself into the country, numbers of patients being brought from Dunbar, Haddington, Pennicuick, Musselburgh, &c., so that it was not now, as at the earlier parts of the season, confined to the cities and large towns, but had become extended to the provinces.

A new fever presenting itself, as may be supposed it ere long attracted a host of investigators as to its positive nature, and at the various medical societies in Edinburgh the subject was fully and freely discussed. Some physicians considered it a modification of typhus, and others stoutly contended for its arising from a poison specifically different from that which produces the usual forms of continued fever observed in this country. Professor Christison, at one of the meetings of the Medico-Chirurgical Society, expressed his opinion with some positiveness that the epidemic of 1843-4 so nearly resembled the fever of 1817-20, described by him in Tweedie's Library of Practical Medicine, as to leave no doubt as to their identity. The Doctor, however, acknowledged that he had seen but a very limited number of cases in the recent epidemic, and probably his conclusion was in some degree arrived at from the accounts of others whose opportunities for observation had been more extensive. With all deference to so high an authority as Dr. Christison, there were many and important disagreements between the two, though in certain respects an undoubted similarity existed. The relapses in the fever under description were far more frequent, the yellow cases more numerous; the distemper of 1817-20, according to Dr. Welsh and others who recorded it, was of a much more inflammatory type, and required more depletive treatment, with other dissimilarities, at once disproving their positive identity. Professor Henderson, in an able account which he published in Craigie's Journal (Jan. 1844), pointing out the difference between it and the genuine typhus, says:—"The epidemic began to prevail in February 1843, and the very first case that came under my notice I distinguished at once as widely different from every form of fever that I had previously seen." Professor Alison ultimately expressed his conviction of its being a NEW DISEASE, though at the first he was not so fully satisfied as to that point. The subsequent facts, to be detailed in these papers, will, I trust, remove every doubt as to its not being a new disorder. Dr. Welsh, in his Treatise on Blood-letting in Fever, says, that in the epidemic of 1817-20, instances were observed where the same individual had as far as three distinct attacks in the course of a few months. Again, he remarks, "I believe that several of the nurses in the Royal Infirmary had a second attack." Several cases came under my own notice where persons had a repetition of the disease in the course of a few months, but I do not remember any instance where one individual had three attacks, as mentioned by the author above cited.

There were undoubtedly some considerations which led to the supposition that the epidemic bore certain resemblances to the suette, or sweating fever of Normandy. In a few instances, though these were of very rare occurrence, the epidermoid tissue was raised into vesicular eminences, varying from the size of a millet-seed to the section of a small pea, these vesicles containing a transparent fluid and quite unattended with any areolar blush; on the third day they became shrivelled and opaque, and were desquamated in thin furfuraceous scales. From the occasioned presence of these bullæ with other nosological characteristics, some degree of similarity certainly was manifest between it and the suette. There were physicians who endeavoured to shew its near alliance to the yellow fever of the West Indies, indeed gave it as their opinion that, in some respects, there was a positive identity between the two, only that the epidemic prevalent in this country had become greatly modified by climate and other circumstances calculated to alter its general features. When we take into consideration the usual number of yellow cases,—that in Dundee there were several instances of black vomit, though in Edinburgh I did not see more than two or three cases, together with certain less important correspondent symptoms, we are compelled to admit that the assertion

is not wholly unfounded: no trace of its importation to Scotland, however, could be found, which has generally been done where yellow fever has been communicated from one country to another. In 1793, Dr. Chisholm traced the yellow fever into the island of Grenada, and numerous cases are upon record where ships have conveyed the disorder from one remote part to another. Some of the physicians in Glasgow, (who espoused this opinion), at one time imagined that it had been first imported into that city by merchant vessels coming from the West Indies; this idea, however, was more fanciful than real, no facts being adducible to attest the truth of such allegation. Dr. Spittal of Edinburgh pointed out a likeness between it and an epidemic that occurred in Greece near three thousand years ago, and according to the description given by the ancient writer, in certain particulars they may be said to resemble each other. From the various histories of Irish epidemics which have from time to time been the scourge of that kingdom, some of those attacks seem to have been very much like the epidemic now under consideration, particularly the fever of 1818-20, which from the almost universality of its crisis occurring on the fifth day, was termed by the vulgar *the five days' fever*, and that disorder, like the affection of 1843-4, nearly always resolved itself by a well-marked and copious diaphoresis. Dr. O'Brien, who gave an account of the Dublin epidemic of 1826, mentions nosological characters of that disease which evince a decided resemblance to the one now described. The author says, "it was distinguished by its short periods, terminating in three, five, seven, or nine days, but the second of these periods was the most frequent. The person previously in perfect health would be seized with sickness at the stomach, headache, pain in the small of the back, and chilliness. On the approach of the evening all these symptoms increased, and the febrile paroxysm was formed, the chilliness increased to a rigor, the nausea to vomiting which harassed the patient during the first three or four days of his fever, in the form of an empty straining, and frequently continued through the whole course. On the evening of the 5th or 7th day the exacerbatio critica commenced, which, mostly with the intervention of a rigor, but very frequently without this symptom, terminated in a profuse perspiration, which continued through the night, so that on the following morning the crisis was complete, and we generally found the patient convalescent."* These particulars relative to the Dublin fever of 1826, tally so nearly with the account to be given of the pathological characters of the epidemic under discussion, as to warrant the statement that no febrile disorder of recent occurrence, in the mode of its attack and resolution at least, bears so striking a resemblance; only that the fever of 1843-4, instead of resolving itself on the fifth day, for the most part had its crisis on the seventh; therefore it might be termed the *seven days' fever*, (Tables No. V. VI. and IX.)

Had the disease been of a more malignant nature, and thus requiring greater care and attention in its treatment, the results could not have failed to have been of a very calamitous description, the numbers affected being so considerable that it was quite impossible for the unfortunate persons who were unable to gain admission at the hospitals to procure the requisite medical attendance;—luckily, however, active remedial means were not in the majority of cases indicated, and many went through the disorder without any medical attendance whatever. There can also be but little doubt, that if sufficient hospital accommodation had been readily provided at the very outset of the attack, it would never have become so general in Edinburgh. As it was, from the limited provision in the public institutions, innumerable were obliged to remain at their own homes, often amid a numerous family in apartments and localities densely populated, and in every other respect highly fitted for the propagation of a distemper; hence in a great manner was the mode in which it became so prevalent. Many instances were observed, where an individual became affected, and from being obliged to lie in the same room with the rest of the family, every other member subsesequently took the disease. Again, the afflicted on remaining at their own

* Cormack on the Fever of 1843, p. 101.

homes were visited by friends and neighbours, who communicated the distemper to other and distant parts of the city, and with these, in like manner, similar circumstances operated in its diffusion; hence, it is unquestionably obvious, that a prompt outlay on the part of the civic authorities, and the charitably disposed, on the appearance of the first cases, would not only have saved much expense, and called for a less demand on their bounty, but would at the same time have been the prevention of incalculable misery, and in a summary manner tended to check its ravages.

Upon interrogating the patients as to the cause of their attack, they for the most part ascribed it to wet, cold, or contagion, and could generally remember some particular period when one or more of these assigned causes had been in operation. In Table No. VII. out of 80 cases, 28 (1 in 2·85) referred this affection to contagion, 17 (1 in 4·7) to wet, and 13 (1 in 6·15) to cold. Those who imagined that they had contracted the disease by means of contagious influence, would frequently mention their having visited a friend or relative labouring under the disorder, or, what was more generally the case, assert that the distemper was raging in intimate proximity with their dwellings. The two latter causes, viz. wet and cold, had for the most part immediately preceded the accession of their attack, and were consequently adduced as the only reasons they could suggest giving rise to their affection. Most writers upon fever, especially those who have recorded great epidemics, notice the fact of patients attributing their malady to the foregoing causes; and when we consider what a powerful excitant the effects of cold form, and the unequivocal proofs that are so frequently afforded of contagious and infectious influence, the conclusions thus arrived at seem very plausible inferences. When the system has contracted an infectious matter which may for some time lie latent, any debilitating or depressing influence may so affect the body as to act as a proximate cause, and thus develope the impending disease; and perhaps few if any causes are more calculated to act as an excitant than cold. We are aware that a convalescent from fever will on exposure to cold have a relapse, and such relapse be marked by a very near repetition of the primary symptoms, yet we are not to conclude that cold, *per se*, can produce fever, however the vulgar may protest, and coincidences seem to favour the supposition; but we must merely regard it as a proximate cause, though perhaps one of the most powerful in the induction of fever. Sir Henry Marsh is of opinion, that "cold like contagion is an impression made upon the sentient extremities of the nerves." Thus, there being conveyed a positive sedative effect to the great nervous centres, the whole system becomes depressed, and such depression necessarily constitutes a state highly favourable to the development of the febrile phenomena. Fear, by producing like effects, is attended with similar results; hence, it not unfrequently happens that those persons who are exceedingly afraid of contracting a prevalent distemper are the first to become its victims.

Females were more frequently affected than males, and both sexes when under puberty seemed to be less susceptible of its infection than adults. In Table No. IV. out of 330 cases at one time in the hospitals, 171 were females, and 159 males; Table No. VIII. which gives particulars respecting 450 cases taken in January 1844, shews that out of that number 240 were females, and 210 males, being a majority of $\frac{1}{15}$ of the former over the latter; in Table No. IX. 24 were females, and 16 males; in Table X. 45 were females, being 1 in 1·77, and 35 were males, being 1 in 2·28; in Table XI. out of 159 patients, 91 were females, and 68 males; and in Table XII. out of 32 patients, no less than 26 are females, and only 6 males; thus out of 1·091 cases above mentioned, 597 were females, and 494 males, the former exceeding the latter by a fraction more than ten per cent.

From 20 to 40 years of age appears to have been the period at which the greatest liability to the disease existed, as in Table No. VII. it is shewn that out of 80 cases one half were during that period, and only one fourth of the aggregate were under 20 years of age; 18, or 1 in 4.44, were from 40 to 60, and but 2, or 1 in 40, were above sixty. In Table VIII. out of 450 cases, 130, or 1 in 3·46, were under 20 years; 217, or 1 in 2·07, from 20 to 40; 85, or 1 in

5·29, from 40 to 60; and 18, or 1 in 25, were sixty years and upwards. In Table IX. out of 40 cases, 6, being 1 in 6·66, were under 20; 26, being 1 in 1·53, were from 20 to 40; 7, or 1 in 5·71, from 40 to 60, and 1 above 60; in Table XII. out of 29 patients whose ages were ascertained, 12 were under 20, being 1 in 2·41; 13, from 20 to 40, being 1 in 2·23, and 4 from 40 to 60, being 1 in 7·25. Thus in an aggregate of 588 cases here given, the average runs as follows;—168, or 1 in 3·5, were under 20 years of age; 296, or 1 in 1·98, were from 20 to 40; 104, or 1 in 5·65, from 46 to 60; and 21, or 1 in 28·95, were 60 and upwards. Hence we see that nearly half of the whole number came under the second period, (from 30 to 40,) which is an interesting fact, when it is considered that such is arrived at from well nigh 600 cases; and shews that in this fever the affection was more generally observed as occurring during a particular time of life.

[To be continued.]

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### THEORIES AND HYPOTHESES.

In estimating the value of a theory, we are not to look, *in the first instance*, to the question whether it establishes satisfactorily or not a particular process; for of this, after all, we can never obtain more than that indirect evidence, which consists in its leading to the same results. What, in the actual state of science, is far more important for us to know, is whether our theory truly represent *all* the facts, and include *all* the laws to which observation and induction lead. A *theory* which did this, would no doubt go a great way to establish any hypothesis of mechanism or structure, which might form an essential part of it: but this is very far from being the case, except in a few limited instances; and until it is so, to lay any great stress upon hypotheses of the kind, except inasmuch as they serve as a scaffold for the erection of general laws, is to "quite mistake the scaffold for the pile." Regarded in this light, *hypotheses* have often an eminent use; and a facility in framing them, *if attended with an equal facility in laying them aside, when they have served their turn*, is one of the most valuable qualities which a philosopher can possess; while, on the other hand, a bigoted adherence to them, or indeed to peculiar views of any kind, in opposition to the tenor of facts as they arise, is the bane of all philosophy!—*Herschel.*

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## LIGATURE OF THE POSTERIOR TIBIAL ARTERY FOR A WOUND.

By John Charles Hall, M.D.

Member of the Royal College of Surgeons of England, &c. &c.; Author of "Remarks on some of the More Important Diseases, Medical, Surgical, &c."

I have read, with great interest and attention, the valuable paper forwarded to the Royal Medical and Chirurgical Society, by Mr. Arnott, and also the remarks made by several of the experienced surgeons who entered into an examination of the subject in the discussion to which the paper gave rise. It appears that a wound of this artery is not a very frequent occurrence, evidenced by the fact that Mr. B. Cooper, in his very extensive experience, had only seen two cases; I may, therefore, perhaps be permitted to forward my notes of a case in which this artery was tied by myself some years ago.

April 16th, 1841.—I was requested by Mr. Parkinson to visit, with all possible haste, Mr. N——, a gentleman upwards of sixty, who had been thrown from his horse, and was, to use the words of Mr. P., "bleeding to death from a wound of the leg. As I was within a mile of Mr. N.'s house at the time of the accident, the case was seen in less than half an hour after the infliction of the injury. His clothes were saturated with blood, and a considerable quantity had flowed into his shoe. He was cold and faint, with a feeble pulse. A little brandy and water was immediately given to him, and he was placed in bed. On removing his clothes, a wound of about an inch in length was seen in the calf, a little below the junction of the upper with the middle third, and from which the blood was now again beginning to flow freely. A tourniquet was applied to the femoral artery, which retarded the hæmorrhage, but did not altogether check it. The nature of the injury was at once evident, and the necessary steps immediately taken for securing the posterior tibial artery. Introducing a long narrow-bladed knife into the wound, the muscles were carefully divided above and below the seat of injury, down to the deep fascia which was now clearly seen on sponging away the coagulated blood, and into which a small opening had been made. (The

manner in which the injury had been sustained was doubtful. At the time, the old gentleman was riding a horse that plunged violently and threw him with great force to the ground; his foot was fixed in the stirrup, and he was dragged some distance; he says when his foot got at liberty the horse kicked him, with considerable violence, on the leg; he had neither trowsers nor gaiters upon his leg, which was only protected by a thick stocking. On looking at the shoes of the horse, we found he had been shod behind with what are called "*caulkings*," one of which Mr. N. supposed had been driven into his leg.)

Enlarging the opening in the fascia, after removing a good deal of coagulated blood, the artery was found, and secured by passing a ligature above and below the wound and dividing the vessel between them. The wound in the muscles was then brought together, and a bandage passed from the toes to the upper part of the thigh; the patient appeared to experience much relief from this, which, in a great measure, checked the spasm and quivering of the muscles, which was somewhat severe during and immediately after the operation. A large dose of Liq. Opii. Sed. was given. No constitutional disturbance worthy of notice took place. Both ligatures came away on the 12th day after the operation. I saw Mr. N. a few days ago; he was on horse-back, and told me he could not discover that the leg on which the injury was sustained was worse than the other; and that it did its work very well.

Mr. B. Cooper appears to think that the other operation is better, and that the artery can be readily found and secured by separating the *soleus* from its attachment to the tibia. I know not how this can be managed on the living subject, but I well know its difficulties on the dead; and remember, after trying it several times on the dead body, remarking to my esteemed friend and old teacher, Mr. Lane, that I never dare venture to take up the artery in this manner, if called to a patient with a wound of the posterior tibial artery. Mr. Guthrie, in his usual graphic and forcible manner, has thus stated the difficulty of thus performing the operation. "The operator has cut his four inches, has turned up the head of the *gastrocnemius*, and has insinuated his director under the head of the *soleus*, which he has also *sliced away from the bone*, the artery is still an inch inwards, bound down by a strong fascia, which must be cut immediately over or by the side of the artery; it will not do to separate it from the bone and then push it over; it cannot be done." Even when this fascia is divided after the most approved fashion, Mr. Guthrie considers it almost impracticable to separate the two veins from the artery, and to pass a ligature under it from without inwards, so as to avoid the nerve. "If a bystander should inquire *why this most difficult, painful, bloody, tedious, and dangerous oparation is done?* the answer would be, solely because it was not usual to make a longitudinal incision in the muscles of the calf of the leg—an incision which, if made by accident, would be pronounced to be one attended with little danger, and not likely to lead to any subsequent detriment." (*Guthrie on Injuries and Diseases of the Arteries*, p. 259.)

With regard to the point alluded to by Mr. Cæsar Hawkins, "that it was desirable to secure the artery above the wound in cases in which we were ignorant of its precise direction," he mentions a case in which he could not tell whether the femoral or profunda was wounded; he therefore placed a ligature on the common femoral, and the patient recovered. In a case that came under my care, the particulars of which are stated in this journal (April 26, 1844), in which the patient had received a stab with a long knife at the upper part of the thigh, it was necessary to apply a ligature to the common femoral above the part where it was wounded, another below, and another below that part of the profunda which was wounded, before the bleeding was arrested. It appears, I think, the proper rule of practice always, if called to a patient *immediately after* the injury has been sustained, to enlarge the wound, and to tie the artery above and below the part that has been opened.

Mr. Hodson mentions a case in which death took place, where the brachial artery being wounded, a ligature was only placed above the part injured. The loss of blood which deprived the unfortunate patient of life was from the lower end; and this person's life would, in all probability, not have been sacrificed, had both ends of the vessel been secured on the receipt of the

wound (On Diseases of Arteries, page 469.) Mr. Liston says, "it is not sufficient to include the vessel above the wounded part, for the lower part will, after some time, be supplied by the collateral branches almost as freely as by the large trunk, and consequently bleeding will be renewed; two ligatures are to be employed, one above, and the other below the wound." (page 236.) Mr. Guthrie is of opinion, that the lower end of a divided artery is more prone to secondary hæmorrhage than the upper, and that the retraction and contraction of the lower end of a divided artery is neither so perfect nor so permanent as at the upper end, and that the internal coagulum is in many instances altogether wanting, or very defective in its formation (p. 251.)

In the well-known case of Mr. S. Cooper, in which he took up the femoral artery in the middle of the thigh, when the popliteal had given way ten days after the passage of a musket-ball through the ham, no doubt the inflammation in the ham had plugged up the lower end of the artery; and in the case in which this gentleman secured the popliteal artery for a wound of the posterior tibial, there is no doubt but the "extensive ill-conditioned wound" made by the pane of glass, and the "ineffectual attempts of the house-surgeon to secure the posterior tibial," led to the same result, with regard to the lower portion of the wounded vessel. Mr. Liston concludes his argument in favour of cutting down upon a wounded artery, and securing it above and below the opening made in it, thus—"*Cases of hæmorrhage have occurred in which the tying the vessel immediately above the wound has been successful, but these are few, and by no means afford any argument for the adoption of such a measure.*"

Lastly, I venture to express the opinion, that the fears of surgeons that the divided muscular fibres will not unite, are in a great measure groundless; at any rate this case adds another to those already recorded, in which the posterior tibial artery has been secured in the way recommended by Mr. Guthrie,—in which the wound in the muscles has healed favourably, and the patient completely recovered.

Grove Street, East Retford,
Dec. 23, 1845.

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## CASES OF POISONING BY OPIUM.

By Edmund Sharkey, M.D.
St. Helier's, Jersey.

April 18, 1845.—Mr. Adolphus Von Kummer, a foreigner for some months resident here, was found dead in his bed this morning. The following particulars appeared in evidence before the Coroner's jury. He had been labouring under pecuniary embarrassments lately. Yesterday morning, after breakfasting in a hotel, and (as appeared from circumstances detailed in evidence) there taking a large dose of laudanum, he retired into a bath-room of the public baths, and after a lapse of about two hours was found there in a lethargic condition, from which, however, he was roused by the application of cold napkins to his head, shaking him, &c. About 10 o'clock that night he was visited by Dr. King, who remained with him for twenty minutes, during which time he conversed rationally, and seemed quite collected. Dr. K. left him. After Dr. K.'s departure he bathed his feet, and had a bowl of gruel brought to him. At 5 A.M. to-day Dr. K. was summoned to see him, and when he arrived found him comatose, and he died about 8 o'clock A.M. The servant had heard him snoring loudly in the night. Drs. King and Le Cocq, with myself, examined the body within twelve hours after death. The following appearances were noted:—

A quantity of white froth surrounded the mouth and nose. Body still warm and rigid. Stomach healthy; containing a quantity of fluid, apparently gruel, which had not any smell of opium. Intestinal canal also healthy, as were all the other viscera. Head: veins of scalp gorged with blood, also the veins of dura mater, sinuses, &c. There is no effusion in any part of brain. The contents of the stomach were tried by the usual tests, but exhibited no trace of morphia or meconic acid. However, from all the circumstances of the case, we could come to no other conclusion than that he had died of the narcotic effect of some drug, which must have been taken subsequently to Dr. King's visit on the night preceding his death; and yet no phial, box, or paper was found. But on raking out the cinders of his fire-place a small mass of melted glass was discovered; so that probably, after drinking the contents, he threw

the phial into the fire. It was proved in evidence that two separate purchases of half an ounce of laudanum each were made at the shops of two different druggists.

April 19, 1845.—Philip Mourant, æt. 32, an able-bodied sailor, had been for some little time under treatment for an apparently slight febrile attack, from which he was so far convalescent yesterday as to have gone to put his clothes on board the vessel in which he intended to have sailed on the day following. In the course of yesterday evening, after a hearty meal, he was attacked by a severe pain in his back, for which one of the company recommended him to take a dose of opium. A chemist was accordingly applied to, who gave three pills, containing each about one grain and a quarter of Extract. Opii. He took two of these pills, and was immediately afterwards attacked by a convulsive fit, and died. This evening, in company with Dr. Hooper, who had attended him during his late indisposition, I examined the body. The following particulars were noted.

He was a most muscular man, very fat, short-necked, and plethoric. There was an extensive lividity of the integuments of neck. On opening the head, a great quantity of blood flowed from the scalp, superficial veins, and sinuses of the brain. Some effused blood in a fluid state, and a small clot, were found surrounding the medulla oblongata. Stomach contained a quantity of fluid of a reddish tinge, probably from admixture of some wine which he had taken. Extensive ecchymosed patches were observed on its mucous membrane. Gall-bladder distended with bile. Heart flaccid and pale, nearly empty, and *when handled, crepitates distinctly like a piece of lung;* on dividing the large vessels, a small quantity of fluid blood escaped, containing a great deal of gas. Fermentation seemed to have commenced in the stomach, as many bubbles escaped in the fluid which issued at the nostrils on pressing the epigastrium. Vena cava and venous system generally much gorged.

These cases present a few points of interest in a medico legal view. In the first we may observe the rapidity with which all traces of opium had vanished from the stomach, eluding not only the sense of smell but also delicate chemical tests, so that, if it had not appeared by other evidence that the poison had been taken, and that in large quantity too, the medical witnesses could not have made any positive declaration about it. Again, the recovery of the suicide from the effects of the first dose, and his death so soon after, would have been rather embarrassing, had not the additional circumstance of the melted phial thrown an auxiliary light on the medical probabilities in the case. This affords another proof of the necessity of closely scrutinizing all the circumstances in every instance.

The second case is also rather a remarkable one, especially as regards the condition of the heart and the blood contained in it. The temperature at the time scarcely allows us to suppose that the contained gas could be the result solely of decomposition after the lapse of twenty-four hours; so that we are led to the conclusion that the blood must have been in a morbid condition, which predisposed to the fatal effusion. An important and difficult question was put to the medical witnesses by the jury, viz. "whether we thought that the dose of opium taken had accelerated the death." Now in any ordinary case, such a dose would perhaps have been innocuous. But if, as in the case before us, there was such a state of circulation as to cause a strong tendency to sanguineous effusion, it is undeniable that even such a dose would be hazardous; and it is quite certain that no judicious physician would think of prescribing opium *in any quantity* for such a patient. This was the substance of the answer which we gave.

Lastly, I think the perusal of both cases cannot but force upon our minds the conviction, that there is something needed in our medical police, as to the unrestricted dispensing of dangerous drugs by chemists and others, to the manifest danger of the community.

[Remarks.—Although Dr. Sharkey's opinion that a second dose of opium was taken, in the first case, may be perfectly correct, and the deceased may have taken at different periods the two half ounces of laudanum which it was proved he had purchased, yet it may be proper to observe that several cases are on record, which show that a person may recover from the first symptoms, and yet ultimately die from the effects of a single dose.—Ed. Gaz.]

# MEDICAL GAZETTE.

FRIDAY, FEB. 6, 1846.

We elsewhere publish an account of the state of the public health during the last quarter, from the report recently issued by the Registrar-General. On the whole it will be perceived that the return is very favourable, as it shows that with an increasing population, the rate of mortality is considerably diminished. One of the new features in the Report is, that the deaths of one year are not compared by mere numbers with those of another year, but an estimate is made of the additional mortality which should take place according to the progressive increase of population. Thus, during the eight years from 1838—1845, 1·74 per cent. annually is allowed for the increase of deaths according to the increase of population; and we arrive at the following interesting results:—1, that in two years only, 1839—1840, the deaths were above the average of what they should have been according to the increase from 1838; and 2, that during five years, from 1841—1845, they were, on the other hand, considerably below the calculated number. In no year do we find this favourable difference so great as in 1845, the deaths being, out of a population of six millions and a half, no less than 6,469 below the average.

The Registrar-General properly ascribes this result for 1845, to the mildness of the season; and he has annexed a table to the Report, which confirms this view. The mortality in the metropolis was also equally low: for, notwithstanding the increase of population, the deaths are considerably less numerous than they have been in the December quarters of the last seven years, if we except those of 1839 and 1841; in 1839 they were but little under the number returned for the last quarter of 1845.

In our weekly remarks on the mortality of the metropolis, we have had occasion to observe that the deaths from measles and hooping-cough have been exceedingly great; often, in the case of measles, treble or quadruple of the averages. The deaths from the former disease, during the past quarter (927), have been greater than those which have occurred in the quarters of any two years since 1839. The deaths from hooping-cough (557), have been greater than in any December quarter since 1839, with the exception of that for 1841, when they amounted to 652. On the other hand, it is satisfactory to observe that the deaths from small-pox and scarlatina have been, comparatively speaking, few.

In addition to the probable epidemic diffusion of these diseases, we are satisfied that one great cause of their prevalence, is the unrestricted manner in which children labouring under them are carried about in public thoroughfares. One child affected with the disease may thus convey it to forty or fifty others who are healthy. In the absence of a proper system of medical police, it is hopeless to expect that any attempt will be made to suppress this evil. The remark applies equally to small-pox, notwithstanding that the law has made it an indictable offence to expose a child labouring under it in a public highway.

As some of our readers may feel an interest in watching the progress of these formidable infantile diseases, we here transcribe, from the Report, the deaths which were registered in the December quarters of the last seven years.

| | 1839 | 1840 | 1841 | 1842 | 1843 | 1844 | 1845 |
|---|---|---|---|---|---|---|---|
| Small Pox .... | 66 | 709 | 75 | 108 | 114 | 571 | 106 |
| Measles ..... | 382 | 356 | 409 | 346 | 456 | 385 | 927 |
| Scarlatina .... | 918 | 419 | 181 | 522 | 718 | 872 | 269 |
| Hooping Cough | 212 | 287 | 552 | 309 | 468 | 277 | 557 |

Some anxiety has been manifested among members of the medical profession to know whether they have the privilege of exemption from service under the Militia Act. We believe that although the principle of these acts is entirely contrary to the spirit of the 32d Henry VIII. c. 42, that they cannot claim exemption. The case, however, stands at present thus:—During the last session of Parliament, an Act was passed (8 and 9 Victoria, c. 58) to suspend, until the 1st day of October 1846, the making of lists, and the ballots and enrolments for the Militia of the United Kingdom. In the meantime, it has been officially announced by Sir James Graham, that the Government have an intention to bring into Parliament at an early period, a bill to consolidate and amend the Militia Acts. It was also stated, that there was no present intention of calling out the force.

Under these circumstances, it is scarcely necessary to discuss the question. As the Militia Acts are to be amended and consolidated, it will be time enough to consider how the profession will be affected by them when the new measure is introduced by the Government. It is, however, worthy of remark, that the late Medical Bill, although it professed to repeal the 32d Henry VIII. c. 42, entirely neglected to provide for the exemption of medical men from militia service. The privileges of registered practitioners, according to the twenty-third clause of the defunct measure, were limited to exemption from service on juries and inquests! For the present, we shall regard this as an oversight: there can be no question that every medical man engaged in practice, has the strongest claim to be exempted from the operation of the Militia Acts. We shall take care to give early intimation of the nature of the new Government measure.

We are sorry to perceive that while the Minister has made most extensive changes in the intended new Tariff, in relation to the supply of the bodily wants of the community, he has entirely overlooked one important item; namely, that which concerns the importation of works, (not translations) printed in foreign living languages. While almost every article which is eatable, from cranberries to salt-pork, is to come in duty-free, the literature of France, Germany, and Italy is still to be kept out by a *pro ratâ* duty according to weight. This must assuredly be an oversight. The lawyers are benefited by the total remission of duties on parchment and vellum; but we in vain look over the list, for the remission of duty upon one single article which will confer a special benefit upon the medical profession. The duty is certainly taken off "empty stone bottles;" and this is the nearest approach that we can find to any article used by the medical profession!

Any duty levied upon foreign works, is a downright discouragement to the cultivation of literary taste or scientific accomplishments. We believe that foreign works are now most extensively sought after by medical men; and all who are acquainted with the valuable researches of continental writers in all branches of medicine, will, we are sure, join us in denouncing the continuance of a tax which is as unjust as it is impolitic.

The foreign medical book-trade is at present in this metropolis a sort of close monopoly. We can hardly complain of the price of French works with their "Chiffonnier" paper, although francs are here converted into

shillings;—yet all who have purchased books in France, must know that this charge is excessive, and only plausibly justified by an appeal to the duty fixed on foreign works by the English Government. The German medical book-trade, is if possible, a still closer monopoly. Here the charges appear to be *ad libitum*, and again the extortion is justified by an appeal to the duty. We have no hesitation in stating, that when we compare the paper, type, and other accessaries, English medical works are a hundred per cent. cheaper than those which are imported from Germany. German medical works are just becoming emancipated from a respectable sort of whitey-brown paper upon which they have hitherto been printed; but many of them will still remind the antiquarian reader of the early impressions of the Niebelungen-lied! The type is often execrable, when the paper is good: the sheets are simply folded, and fall to pieces on being cut; for German publishers have not yet allowed their books to have even the modest brochure character of those of our Gallic neighbours. If a doubt exist upon the correctness of our strictures, let any individual compare the respective treatises on Materia Medica, by Dr. Karl Wibmer and Dr. Pereira, or those on Chemistry, by Mitscherlich and Turner. Mitscherlich's treatise, although one of the best works on Chemistry in the German language, is by the English tax and monopoly together, placed almost beyond the reach of the English medical student.

From these considerations we sincerely trust that the Minister, in his new measure, will regard the minds as well as the bodies of Englishmen, and give all possible encouragement for the diffusion of foreign medical literature in this country.

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## Reviews.

*Guy's Hospital Reports. Second Series. No.* VI. October 1845. Edited by G. H. Barlow, M.D., Edward Cock, Edmund L. Birkett, M.B., J. H. Browne, M.D., and A. Poland. Highley: London.

The present number of the Guy's Hospital Reports contains several original papers and cases of great interest and importance. Of these the following are the most prominent.

*Two Cases of Labour protracted by insuperable Rigidity of the Os Uteri: with Remarks.* By John C. W. Lever, M.D.

The first of these cases is an interesting instance of a form of lesion which, although of somewhat rare occurrence, and not alluded to in most of the systematic works on midwifery, has occurred within the observation of several accoucheurs; we allude to the partial or complete separation by rupture of the os uteri during parturition.

The subject of this case was a primipara, æt. 23, who, when Dr. Lever was first consulted, had been in labour two days. The liquor amnii had been evacuated, during a fit of coughing, early in the labour. He was informed by the surgeon in attendance, that on the preceding morning, the pains were frequent, forcible, and violent; the os uteri was rather larger than a shilling, its edges were thick and rigid; and the head, which presented, seemed to press firmly, especially during pain, on the anterior part of the cervix. Bleeding to sixteen ounces, and the application of extract of belladonna to the os and cervix, had produced no effect upon the uterine outlet. Dr. Lever advised the administration of tartar emetic until complete nausea was produced; and this to be followed by a full dose of opium. The desired effects of the antimony were maintained for some time without any alteration in the size of the os uteri. The pains were in some degree lessened, but returned in a short period with renewed violence, and the lips of the womb retained their rigidity, but increased in thickness. At 4 P.M. on that day, Dr. Lever found that a short time previously, during a violent pain, a portion of the uterus,

(which, as represented in the drawing, appears to have been about five inches in width, and to have consisted of the os much thickened and puckered, with a considerable part of the cervix) was expelled. Its odour was very fœtid. The patient's countenance was anxious, and her face was covered with perspiration; her breathing was quick, but not laborious; her pulse 140. She was restless, and threw herself about in bed. The abdomen was rather tender; the pains were rapid in succession, and forcible; the vaginal discharge was horribly fœtid; the anus was patent, and fluid fæculent matter was running out; the perinæum was of a dark red colour, swollen and œdematous. On examination, the head was found pressing on the perinæum, and the *fourchette* had commenced to lacerate; the head seemed large, firmly ossified, and there appeared to be no overlapping of the bones; and, when pressed upon, it did not retire. Fearing that each pain would lay the rectum and vagina into one canal, Dr. Lever, after evacuating the bladder, introduced the perforator, thoroughly evacuated the cerebral mass, and delivered by means of the crotchet without greatly increasing the laceration that had occurred. The delivery was not followed by any symptoms either of hysteritis or peritonitis: but, on the following day, symptoms of inflammation of several of the joints appeared. On the eighth day, these symptoms became much aggravated, and she died on the tenth day with evidences of purulent arthritis of the shoulder, elbow, hip, knee, and ankle-joints. No post-mortem examination of the body was permitted.

Case II.—A woman, æt. cir. 28, states that, at the age of 20 she was troubled with falling of the womb, consequent upon injury received in lifting a heavy tub. At the age of 24, she miscarried with a five months child. On Tuesday, Dec. 10th, at 3 A. M. labour commenced, with discharge of the liquor amnii, accompanied by sharp pains. At 7 A. M. the os uteri was found seated high up and directed backward: it was undilated and very rigid, and as thick as a finger. Under appropriate treatment, the os uteri was, in the afternoon, found to have lost much of its thickness, but still admitted but one finger. It was peculiarly rigid, and like a ring; and, during pain, the head could be felt bearing forcibly on the cervix. At midnight, Mr. Evans, the surgeon in attendance, consulted Dr. Lever respecting the propriety of incising the rigid ring-like edge of the os uteri. The author found the head of the child to be partly advanced into the cavity of the pelvis, but surrounded by the cervix uteri, which was œdematous; the os was barely as large as a half-crown piece, and, with the exception of the anterior fourth, felt as if it was drawn in with catgut; the anterior fourth was swollen, soft, and elongated. During her pains, which were most violent, the corrugated scalp was forced through the disc of the os uteri. The author divided the whipcord margin of the os uteri towards the posterior part of the sides of the pelvis, in the direction of either sacro-iliac synchondrosis. The incisions were made during the contraction of the uterus: the patient made no complaint; in fact, they gave her no pain. The immediate result was, a diminution of the œdematous condition of the cervix, and the loss of a small quantity of thin watery blood. The pains, which had been so forcing, did not at first entirely cease, but they were much moderated; still, feeble as they had become, slight progress was made. Afterwards, there was a cessation of pain for nearly an hour. They then recommenced, and, at 4 P. M. the os had dilated to the extent of two inches diameter; and, at a quarter to 5, a female child was expelled, still-born, but was resuscitated on the application of the usual remedies. The patient did well.

Dr. Lever refers to six other instances, in which during labour the os uteri has been torn completely off. To these may also be added, a case published by Dr. Reardon, in the Dublin Medical Press, and reprinted in the Gazette, for August 29th, 1845. In the Dublin Medical Press (Jan. 15th, 1845, Dr. A. Davis, of Newry, relates a case, in which, on the fourth day after the commencement of parturition, a transverse rent, of about two inches, in the cervix uteri anteriorly, was discovered. The separated portion of the os was divided longitudinally, and delivery accelerated by the administration of the ergot. On the sixth day after

delivery, the separated portion of the os uteri sloughed off. About two-thirds of the os came away. From this time the convalescence was rapid. (MED. GAZETTE, April 18th, 1845)

In the Northern Journal of Medicine, for Sept. 1845, Dr. T. Williamson records the case of a woman, æt. 19, in labour with her first child, in whom the os uteri was dilated to about the circumference of a half-crown piece on the second day of parturition, its margin being *thin* and *yielding*. The left foot presented, and notwithstanding the previous escape of the liquor amnii, was still fully retained within the uterus. While the parts were in this condition, the patient was seized with three strong and remarkably violent pains, following each other in close succession. Upon examination, it was found that, instead of the left foot being still within the uterus, it had effected a complete passage through the substance of the anterior part of the uterus, about an inch from the margin of the natural orifice. In fact, not only had the foot passed through this oblique rent, but the whole leg up to the knee; the limb to this extent lying in the vagina. No hæmorrhage resulted. Scarcely had the author time for deliberating as to the proper mode of procedure under these circumstances, ere another pain, as violent as the three preceding, forced the foot, leg, and thigh, beyond the external parts, carrying with them a thick band of uterine substance, formed by the tissue between the natural and preternatural openings. It was at first proposed to divide the thick uterine band over which the thigh was riding, but the risk of hæmorrhage from this procedure determined the author to endeavour to return the protruding member through the lacerated opening, and bring the foot through the os uteri. The cessation of labour-pains favoured him in this undertaking, in which he succeeded, although not without experiencing considerable difficulty. Shortly after, the uterus began to act, and, in a little space, the delivery of a living child was effected. With the exception of some febrile symptoms, which supervened on the third day, the patient did well. The author was unfortunately prevented from making any subsequent examination of the os uteri.

The cases recited, and the remarks which he has appended, lead Dr. Lever to advance the following conclusions:—

1. That insuperable rigidity of the os uteri occasionally occurs, over which the usual remedies exercise no influence.

2. That such insuperable rigidity may lead to a partial or complete separation of the cervix.

3. That, to prevent such a serious lesion, two methods of treatment have been recommended; the one consisting in artificial dilatation; the other, in incising the rigid and contracted os uteri.

4. That artificial dilatation, in most cases, is unjustifiable, from the serious injuries it occasions, and the consequent irritation and inflammation.

5. That, under such circumstances, an incision of the os uteri, in one or two places, should be performed.

6. That the operation is unattended with danger, unaccompanied by pain, and, if rightly performed, free from copious or dangerous hæmorrhage.

7. But the operation, to be successful, must be performed before there are symptoms of approaching collapse.

[To be continued.]

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KOΣMOΣ: *a General Survey of the Physical Phenomena of the Universe.* By ALEXANDER VON HUMBOLDT. Vol. I. 8vo. pp. 482. London: Baillière. 1845.

WE have here the first volume of what is likely to prove a work of deep interest to all lovers of science. The reputation of the author as a philosopher and traveller has been so long established, that we cannot feel surprised at a work from his pen being immediately translated into the principal European languages. Yet this is only the commencement of a great design—that of uniting into one picture all the grand phenomena of astronomy and physical geography. Few men, perhaps, are better fitted to undertake so comprehensive a treatise on natural science as Alex. von Humboldt. With a hardy constitution, which has enabled him to explore the most elevated regions of the New World, as well as the greater part of Europe, he unites a keen power of observation with that knowledge of the physical sciences which renders him competent to appreciate and describe all the phenomena that he has encountered in his multifarious wander-

ings. As a traveller we may say of him :

Molto egli oprò col senno e con la mano
Molto soffrì nel glorioso acquisto.

Even in his sixtieth year, he made an expedition into Russian Siberia, and was enabled to endure the fatigue of a journey of eleven thousand miles, in nine months ! When nearly eighty years of age, we find him sitting down to give the results of his observations as a philosophic traveller, during a long and active life; and although in the work before us, there are many views from which cautious men would dissent, it must be admitted that he has succeeded in producing a treatise which will be read with pleasure by all who feel the least interest in the present or past condition of the globe.

Passing over some introductory remarks on the advantages to be derived from the study of science, Baron Humboldt divides the subjects of this volume into three sections: the celestial sphere, the terrestrial sphere, and the organic sphere. In the first section we have a condensed view of the facts ascertained with respect to cosmical phenomena. In the second, which occupies the greater portion of the work, the author enters into a description of the figure and density of the earth, terrestrial magnetism, geology, the distribution of land and water, the atmosphere, and climatology. The third section, on organic life, is short and imperfect; but probably this may meet with a fuller development in the subsequent volumes. The notes contain a large amount of scientific information, addressed particularly to those who wish to go more deeply into the subject than the general reader, for whom the treatise is obviously written.

It would be foreign to our purpose to enter into an analysis of the author's views on the varied subjects which are here discussed; but as the work will most probably find readers in the medical profession, we should be failing in our duty, did we not say that the translation before us evidently bears about it the marks of haste and want of attention. In almost every page we see that it *is* a translation which we are reading. In some instances, the meaning of the author is rendered unintelligible. Take the following misty passage :—

"The cosmic nebulosity formless or fashioned, generally diffused, producing heat by condensation, probably modifies the transparency of space, and lessens the equal intensity of luminousness which, according to Halley and others, must result, were every point of the vault of heaven beset with an endless succession of stars in the direction of its depth." p. 161.

Or this, which refers to carthquakes :—

"The unusual in the phenomenon, throws the same anxious unrest and alarm over the lower animals." p. 227.

This is not English, it is Anglo-German; by a little study, the reader, it is true, may find out what is intended; but these are serious blemishes. The introduction of such phrases as peril-fraught, unrest, nostoc-like, stance, light-foaming, &c., is quite contrary to all the rules of translation, which imperatively require that the *sense* of a passage, as the author intended it, should be rendered without any appearance of constraint. For the use of these compound words the translator, it is true, apologises in his preface; but will the reader admit the apology ? We think not, as the meaning of the author has been thereby rendered obscure. The task was, doubtless, one of great difficulty; but the translator appears to have forgotten that words are the mere media for conveying ideas, and that in the translation of a passage, if by adhering to a literal interpretation of them we ruin the sense, we are simply throwing away our labour. We make these remarks in the hope that in the translation of the other volumes, a little more attention may be paid to those conditions which are absolutely required to render the work pleasing and acceptable to an English reader.

## Proceedings of Societies.

### ROYAL MEDICAL & CHIRURGICAL SOCIETY.

January 13, 1836.

Dr. Chambers, President.

The President made some remarks on a change to be instituted in the mode of balloting for Fellows.

*On Diarrhœa in Children, and its connexion with Hydrocephalus.* By J. S. Allen, Esq., St. Marylebone Infirmary. [Communicated by Dr. Clendinning.]

The author commences by observing that diarrhœa is a frequent and troublesome af-

fection in children, being sometimes idiopathic, but more frequently symptomatic of disease already existing in some important organ; it is to the latter that his remarks apply. During the period of dentition, children are especially subject to severe attacks of this disease, and the object of the paper is to show that the diarrhœa is generally a salutary effort of nature to relieve herself, and that great and fatal damage is frequently done by suddenly checking it. The case usually presents itself as follows:—The child is said to have had for a greater or longer period profuse discharge from the intestines, frequently accompanied by irritability of the stomach; the evacuations are thin and watery, and often of a greenish colour. Astringents have generally been given with partial success, but as soon as they were left off, the purging returned. On inquiry, it will be found that on the checking of the diarrhœa the child became restless and uneasy; the skin hot; and that it often started and screamed during sleep; but that all these symptoms usually subsided on the return of the diarrhœa. What is very observable, is, that although the incessant drain from the intestines may have continued for many days or even weeks, the child is not at all emaciated, but is plump and lively; though it will usually be found that the head is hot, with increased action of the carotid and temporal arteries. If the diarrhœa is allowed to continue unchecked, a cure is occasionally effected without the aid of art; but more commonly convulsions supervene, and carry off the patient, or the disease terminates in chronic hydrocephalus.

The author states that during the last five years he has seen more than 500 cases of diarrhœa in children whose ages varied from three months to three years, and that the proportion of cases of symptomatic diarrhœa to that depending on organic disease has been about six to one. The mode of treatment he has found most successful in the early stage has been the abstraction of the blood from the head, which in the majority of cases has alone served to stop the progress of the disease. If this is not sufficient, he gives small doses of mercury with chalk, and occasionally magnesia combined with an aromatic.

If the bowels have become costive from the administration of astringents, or other causes, he gives calomel and jalap to purge freely.

The author then details several cases in support of his assertion. In some of these, head symptoms with convulsions suddenly supervened on the suppression of the diarrhœa by opiates and absorbents, and death shortly followed. Post-mortem examinations showed evident marks of inflammation of the brain, with effusion. In others, these symptoms were subdued by the treatment above alluded to, and the children eventually recovered.

In conclusion, the author observes that, in the fatal cases, the appearances after death will vary according to the duration of the disease. If the child dies suddenly, great congestion of the vessels (particularly of the veins and sinuses) will be the most remarkable appearance; but if the disease has been of long duration, fluid will be found effused on the surface of the brain and in the ventricles, the intestines being generally found healthy.

Dr. J. Webster agreed with the author that diarrhœa acted in many cases as a salutary effort of nature to relieve the system, and that great caution should be employed in suddenly arresting the complaint; but he dissented from the doctrine, that it was frequently produced by teething. No doubt, irritation of the gums and local complaints were often co-existent in children, but the former did not produce the latter affection, improper feeding being more generally the cause. Respecting the treatment, he (Dr Webster) considered the exhibition of astringents and opiates to children so affected, as a dangerous practice; and however general the opinions of the author appeared on this point, the two cases read to the Society were instructive. In the first, catechu was employed, which arrested the diarrhœa, but the little patient died soon afterwards. In the second case, syrup of poppies stopped the purging, but the remedy was not repeated, as it seemed injurious, and the child eventually recovered. Having seen many examples of the disease under discussion when physician to an infirmary for sick children, he (Dr. Webster) could speak with some confidence respecting the remedies he had employed; the most useful were, mercury with chalk, rhubarb, and magnesia, especially when combined with minute doses of ipecacuanha and castor-oil, as also the strictest regimen. The author advocated strongly the utility of bloodletting, partiularly by the repeated application of leeches; he (Dr. Webster) differed from him in opinion, and would only employ such active treatment, in recent cases, which exhibited decided symptoms of local congestion and inflammation.

Dr. Copland thought that the author was not correct in considering hydrocephalus as the result of the suppression of diarrhœa; he thought that the cases described were simply those of congestion of the brain from the sudden arrest of the bowel complaint; and the effusion of serum which took place between the membranes was a mere accidental circumstance, and was small in quantity. This congestion occurred in the more acute cases, and unless subdued quickly, became fatal. When the diarrhœa was of

long continuance, the child became anæmic from being ill nourished. The effusion was then the result of the existing state of the brain, which was softened and anæmiated; the fluid effused merely supplied the place of the blood which was deficient. It was important that these cases should be distinguished, as they required different modes of treatment.

Mr. Davis (of Hampstead) directed attention to the injury inflicted on children by the over feeding of their nurses. It was common for a child to have the milk from the breast of its mother, and a second nurse, the diet of whom, from the quantities of porter and other deleterious substances she took, was often injurious to the infant by the production of diarrhœa.

Dr. Cursham thought Mr. Allen had confounded the hydrocephaloid disease described by Dr. M. Hall, with hydrocephalus; these diseases, though resembling each other in many respects, were widely different, as the former resulted from exhaustion, and required the administration of stimulants.

Dr. Golding Bird had listened to the paper with much attention, and whilst, in common with every practitioner, he fully corroborated the accuracy and importance of the statements of the author of the paper, regarding the great impropriety of suddenly checking a diarrhœa, occurring more especially in early childhood, he yet felt inclined to differ in the line of treatment indicated. He expressed his decided opinion, from large experience, that in the vast majority of cases, infantile diarrhœa was a mere effect and result of some cause active in the system. Excluding unhealthy ingesta, he regarded the functions of the liver and skin as most frequently in fault. The depurating duties of the former organ, which in infancy are hardly second in importance to those of the lungs, are often imperfectly performed, and a vitiated, unhealthy secretion is poured out which, acting as an irritant, becomes an active cause of a wasting diarrhœa. In such cases a few grains of mercury and chalk, by goading the liver to an effective performance of its duties, often better relieve the patient than a shopful of astringents. The green or chopped spinach motions, so common in more severe and obstinate cases of bowel-irritation, too frequently regarded as made up of bile only, had, as he (Dr. Bird) believed he had elsewhere proved, been shown to be chiefly composed of modified blood; all, in his opinion, that was required to produce these green stools was a congested condition of the portal system, producing a slow and scanty exudation of blood from the intestines, which being acted upon by acid secretions, becomes altered in colour and general character. Green stools were, in fact, to be regarded as mild melæna. In these cases, a direct appeal to the function of the skin, by determining blood to the peripheral capillaries, and relieving those of more central organs, constitutes the only real effective treatment, Here the warm bath and ipecacuanha were invaluable, and often were competent to avert the serious and much-dreaded sequelæ of infantile diarrhœa.

Mr. Macilwain corroborated, from experience, the remarks of the last speaker. He alluded to the connexion between diarrhœa and skin diseases, as evidenced by the alternation of one with the other. The importance of the functions of the skin and liver in diarrhœa were great; he believed the bowels merely acted as compensating organs.

Dr. Theophilus Thompson alluded to a class of cases not mentioned in the paper, but which were important. They were cases of diarrhœa, accompanied by hydrocephalus, but in which neither disease had any connection with the other. The seat of effusion was different from that commonly observed. A child was brought to us with symptoms of meningitis, accompanied by diarrhœa, which, though not averted by remedies, was not sufficient to produce head symptoms. This state was followed by occasional screaming fits and excessive sensitiveness of the surface; the pupils in the early stage of the disease were contracted, but became afterwards dilated. The patient became lethargic, and death ensued. The serum, after death, was not found in the ventricles, but under the arachnoid. The course of this disease differed in many points from hydrocephalus; there was not constipation, but diarrhœa, and there were alternations of lethargy and excitement. He thought both the diarrhœa and head affection were independent of each other, and had their origin in some peculiarity of the system. Was it not probable that this state of system might be dependent on a granular condition of the kidney?

Mr. W. O'Connor said, that in the very practical remarks delivered to the Society by Dr. Golding Bird, he did not once allude to dentition as a cause of diarrhœa in children, and he (Mr. O'Connor) was astonished that no allusion had been made to so important a cause by Dr. Copland and other gentlemen who had spoken; neither had the author of the paper called attention to dentition as a cause, nor in any way noticed the symytoms resembling hydrocephalus often accompanying dentition, which might be mistaken for that affection. It was well known to all who have paid attention to diseases of children, that dentition was a frequent cause of diarrhœa, which was relieved by freely lancing the gums, and sometimes requiring the use of a little mercury and chalk and castor-oil. In children, during the period of dentition, there were frequently present symptoms like to those

of hydrocephalus, and when those symptoms —which are only symptomatic of dental irritation—were treated as of cerebral origin, a state of prostration supervened, under which the hydrocephaloid disease noticed by Dr. Marshall Hall was induced. The author of the paper made some allusion to the views of Dr. Hall, but it was evident he misunderstood or knew nothing of them. Dentition, and the general irritation accompanying dentition, including intestinal irritation, had been noticed, if he, (Mr. O'Connor) did not mistake, by Dr. Marshall Hall, as illustrative of his theory of the reflex function.

Dr. COPLAND said the discussion was not on the forms and treatment of diarrhœa, but the connexion of this disease with hydrocephalus. He had seen cases similar to those mentioned by Dr. T. Thompson; they occurred generally in scrofulous children, and were accompanied by softening of the brain.

Dr. CHAMBERS remarked, that one point of practical importance had not been alluded to in the discussion; he meant, the condition of blood which resulted from the absorption of foul secretions which were the cause of diarrhœa. This showed the necessity of clearing away all foul secretions, for if allowed to remain, they were often the cause of secondary head affections.

## MEDICAL SOCIETY OF LONDON.

Monday, Jan. 19, 1846.

DR. THEOPHILUS THOMPSON, PRESIDENT.

### *Bright's Disease in Children.*

DR. G. O. REES, in answer to a question, stated that he had never seen Bright's disease in a very young child; the earliest age at which he had known the disease to occur being thirteen years. This case came under his notice some years since at Guy's; it was an instance of complete morbus Brightii. The patient had not suffered from scarlet fever.

Dr. T. THOMPSON recollected a case in which the kidney was affected with granular disease, in a child two and a half years of age. For four weeks the little patient suffered from symptoms of a perplexing character; there was feverish excitement, intolerance of light, restlessness, dry skin, and at one period, suppression of urine. The head symptoms became more urgent, and the child expired. After death, the skin was found remarkably waxy in appearance; the blood was fluid. The capsule of the kidney was torn off with more than usual readiness, and there was granular deposit about the cortical substance. The child had evidently died from the change which had taken place in the kidney, the symptoms being those of Bright's, unassociated with any other affection.

He recollected another case in which a child was affected with very nearly the same symptoms, but he recovered. Cases of this disease occurring in children were recorded by Sabattier, Solon, and Christison.

### *Remarkable Case of Paraplegia.*

Dr. G. O. REES related the following case. About three weeks since, a woman, aged 32, was admitted into Guy's Hospital, suffering under head symptoms, and paralysis of the lower extremities. It appeared that on Christmas day last, while out in the street, her legs felt very cold, and she was suddenly seized with a desire to make water, with a total inability to do so. She had received no injury of the spine. Feeling generally ill, she went to bed. On endeavouring to lift herself out of the recumbent position, she found that she could not move her legs, though she had complete power over, and sensation in, the upper extremities. When admitted into the hospital, shortly after, she was labouring under great mental confusion, as the nurse said, "she was not herself;" there was deficiency of articulation, and sluggishness of the pupils. There was no dyspnœa, and no symptom whatever of spinal affection,—the spine, under the suspicion that it might have been injured, having been most carefully examined, and no injury whatever being detected. Catamenia regular. Sensation remained perfect in the legs, but the motive power was entirely gone. Various and repeated efforts were made to develop excito-motory action, but without the least success. The case was altogether a puzzling one, but he was inclined to the opinion, from the brain symptoms, that there was some mischief about the crura cerebri, that probably the corpora striata had been suddenly impinged upon by effusion in that neighbourhood, and that the symptoms present were dependent on that pressure. However this might be, the case was altogether unique as far as his experience or reading went. The patient was given calomel and opium until the mouth became affected; the mercury was then discontinued and the iodide of potassium substituted. The patient rapidly recovered under this plan of treatment; the power over the bladder returning as the general symptoms gave way.

Mr. BISHOP was more inclined to the opinion that there had been some injury to the spine, probably inflicted during intoxication, and that the brain symptoms were merely secondary effects. It was difficult to understand, if the prime mischief were really in the cerebellum, why motion should be lost, and sensation retained. Injury to this column might be received and no symptoms present themselves until a day or two after, or, indeed, even much longer. Such

cases had come under his notice. Besides, it must be remembered that mischief might be going on in the body of a vertebra and not be detectable by pressure or any other means. In support of his views, he briefly alluded to a case, in which a boy received a blow somewhere in the course of the vertebral column, and there was a transmission of the impression to the base of the brain, by which symptoms of disease of that part were developed.

Mr. ROBARTS, if the brain symptoms had not been present, should have allied it to those cases of paralysis of the lower extremities resulting from paralysis of some internal organ. He had seen paralysis of the kind, temporary, however, the result of stricture, disease of the prostate, swelled testicle, or other affections producing retention of urine; the bladder became over-distended, and consequently, paralyzed; the morbid influence was communicated to the spinal cord, and partial paraplegia was the result. Might not the head, in these cases, sympathise with some renal affection?

Dr. G. O. REES had seen paralysis of the lower extremities, of a very short duration, however, from a paralyzed bladder. In his case the kidneys were healthy; their secretion normal. The suddenness of the attack was against the suspicion of there being disease of the body of a vertebra, as suggested by Mr. Bishop. There was nothing incompatible with the supposition that the main cause was in the brain; there was everything in the brain competent to the production of paraplegia.

Dr. ALISON agreed in the last-expressed opinion, and related the case of a woman who received a blow on the head from a stone, by which a portion of the skull was indented. The chief symptom from the injury was partial loss of sensation and motion of the lower extremities.

Mr. ROBARTS related the case of a gentleman who had paraplegia for many years. There was no disease of the spine. He died of apoplexy. The spine was healthy, but an aneurism was found at the base of the brain.

Mr. STEDMAN had seen cases of loss of power in the lower extremities, the result of sleeping in a damp bed.

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## WESTMINSTER MEDICAL SOCIETY.

January 24, 1846.

DR. SAYER, PRESIDENT.

### *Remarkable Case of Paraphymosis.*

MR. HANCOCK was consulted on the 7th of January, 1846, by a gentleman aged 65, suffering from paraphymosis. The penis was much swollen, and the prepuce, especially at the under part, much thickened, attended with great pain. He stated, that for three months previously he had experienced sensations of tightness and heat round the corona glandis, that the parts occasionally swelled, at times being better, at others worse. He described the sensation as that of a tightness, extending from the tip of the penis to the corona glandis, underneath which it had increased rapidly for the last three weeks, so much so that he was induced to come to London, from Suffolk, for advice. For the last two years he had ridden very spirited horses, and, being a fat heavy man, had frequently struck his penis against the saddle; but without at the time experiencing any inconvenience. Has suffered much pain latterly, as if a string were tied tightly round the corona glandis; has had a double hernia, of large size, for several years, and has been in the habit of wearing trusses having very strong heavy springs. His prepuce was not tight naturally.

Mr. HANCOCK endeavoured to reduce the parts in the usual manner, and thought he had succeeded, but in two days the patient returned with the paraphymosis as bad as before, having suffered severely from the endeavours to remove it. Mr. Hancock having drawn back the skin, divided the thickened mucous membrane with a sharp-pointed bistoury—as was usually done in cases of paraphymosis—and desired him to go home, where he would visit him on the following day. On the 10th he again saw him, and found him as bad as before, not at all relieved; the glans and the whole of the penis were swollen, the penis being twisted, inflamed, and exceedingly painful. He examined the parts very carefully: the skin was free, as was also the mucous membrane, which had been completely divided by the cut made yesterday, but he found a band of condensed cellular tissue, about a quarter of an inch wide, encircling the corona glandis, and which he concluded was the cause of all the mischief; he subsequently cut down through this to the fibrous covering of the corpus cavernosum, with immediate and decided relief to the patient, who is now nearly well, although the thickening of the prepuce still exists.

Mr. HANCOCK related this case to the Society as presenting some points of interest; the paraphymosis was not the result of any gonorrhœal discharge, or sores on the glans, its production was neither preceded nor attended, until quite latterly, by any active inflammation, but the mischief apparently was produced by gradual thickening and induration of the cellular tissue surrounding the corona glandis, probably aggravated by the constant dragging exercised on the parts by the strong truss he was in the habit of wearing. Another point worthy of notice was, that in the common forms of paraphymosis the result of acute inflammation of the prepuce,

originally too contracted, the stricture was situated in the mucous membrane lining the prepuce, and the mischief was at once removed by dividing it with a bistoury from within outwards, without cutting through the integuments, but in the case here related the mere division of the mucous membrane was attended by no benefit whatever, as it was not until the subsequent day, when he cut down on the corona glandis to the fibrous covering of the penis, that this patient was at all relieved.

Within the last few months, he had been consulted by two other gentlemen for spontaneous thickening and induration of the prepuce, for which they could assign no cause. In one it induced phymosis, in the other paraphymosis. In the latter he cut the mucous membrane; but as he never saw the patient again, he had no means of knowing the result. However, the case here related, showed that in spontaneous paraphymosis the stricture may depend upon thickened cellular tissue, and not upon any change in the mucous membrane.

A discussion ensued, but nothing of interest was elicited.

## CLINICAL SOCIETY, GUY'S HOSPITAL.

January 30th, 1846.

The 19th general meeting of this Society was held in the Medical Theatre, on Tuesday, Jan. 20, at 8 o'clock, P.M. B. G. Babington, Esq. M.D., took the chair, and the meeting was well and numerously attended.

The business of the evening consisted in the reception of the Medical and Surgical reports, for the first six months of 1845, prepared by the honorary secretaries, Dr. Allen Williams and Mr. Alfred Poland; the appointment of honorary members; and the adoption of several resolutions, embracing votes of thanks to Benj. Harrison, Esq., the Treasurer of the hospital, to whom the Society has been through its entire course much indebted; to the Medical and Surgical officers of the school for their kind and useful assistance; and to Dr. Barlow and Mr. Key, the Presidents; Dr. Edmund L. Birkett, the Vice-President; and the committee of the Society, for their prudent administration of its affairs. A vote of congratulation was also passed to the successful candidates for the honours awarded by the Society—Mr. Finch and Mr. James Poland;—and the meeting received, with unanimous approbation, the notice that Mr. C. Aston Key had consented to become a President of the Society, in conjunction with Dr. Barlow, who has held that office for the last three years.

From the "Reports," it appeared that during the last six months upwards of 800 cases had been reported by 36 students: that the present number of reporters was 24, and that the average length of time each member reported, was 4 months. The number of cases reported for 1843, was 1493; for 1844, 1484; thus showing that the period comprised in the report had been one of great activity.

The Chairman, during the course of the evening, drew the attention of the meeting to the circumstance that, in future, evidence of clinical study would be required from gentlemen, before they were appointed to the clinical wards or to the dresserships.

The Society has been established ten years; it owed its origin to the energy and perseverance of the pupils; and under the same influence it has passed through evil and good report to the present time. The principle upon which it is founded is acknowledged to be the chief if not the soundest means of education in practical medicine and surgery. But beyond its great utility and perfect applicability to medical education, it has another and a stronger claim upon the profession. Through its agency are recorded, preserved and arranged in series, many thousand cases, which practically illustrate the entire fields of medicine and surgery, and which cannot fail by their publication to have an important bearing on all future inquiries connected with the subjects.

## ROYAL INSTITUTION.

Jan. 30th, 1846.

### PROFESSOR BRANDE ON THE ELECTRO-CHEMICAL PROTECTION OF METALS.

On Friday evening last, Professor Brande delivered a lecture "On the electro-chemical protection of metals." The Professor began by calling the attention of the members to the circumstances under which the deposit of metals from their solutions takes place by the influence of an electric current. It was formerly supposed that a contact of the two metals was absolutely necessary, but Mr. Faraday had shewn that the electricity evolved was really due to chemical decomposition; the body which undergoes the chemical changes evolving electricity, and that which does not undergo the change receiving it and conducting it away. One metal which was easily acted on by oxygen might be protected by coating it more or less with another metal which, under the same circumstances, underwent but little chemical change. This coating might be given mechanically by bringing the two metals in contact, one being in the melted state—or by the agency of electricity, in which case the metal used for the coating is separated, in a pure state, from the solution of one of its salts. One of the most useful and im-

portant modern applications of this electro-chemical protection exists in what is called galvanized iron, or, more correctly, iron covered with zinc. This manufacture was now carried on, on a large scale, and the zinced iron possessed many of the useful properties of both metals; thus it was not so destructible on exposure to air as iron itself, nor was it so brittle and so easily injured as zinc. The process by which iron is covered with zinc is very simple. The plate of iron, or it may be any manufactured article, is first thoroughly cleaned with an acid, then washed in water and dried,—it is now introduced into a bath of melted zinc, care being taken that there is no oxide of zinc interposed between the iron plate and the melted metal. In order to guard against this, powdered muriate of ammonia is thrown on the zinc while melted, and previous to the introduction of the iron. (A piece of clean iron was here coated with zinc.) The metal appeared to be deposited in a somewhat crystalline form, and adhered perfectly to the surface of the iron, provided this was lean.

The zinced iron has all the lustre of zinc; it acquires a slight white film when exposed to the air (oxide and carbonate of zinc), but undergoes no further change unless this should be washed off. Iron used for common purposes has been hitherto coated with tin, but the tin has this great disadvantage, that if any portion of the iron be exposed, it tends to its rapid destruction—a galvanic circuit being set up, in which the iron becomes positive and the tin negative. It is not so when zinc is substituted, for in this case the zinc becomes the positive metal, or that which has the greatest tendency to undergo chemical change, and the iron is effectually preserved. As illustrations of the truth of this principle, plates of tinned and zinced iron were placed in dishes of water, the tin and zinc having been previously partially scraped away to expose the iron. In the tinned specimen there were lines of red rust, but in the zinced specimen there was no sign of the iron having become oxidated. Ignorance of this principle had led to the rapid destruction of zinc pipes or flues when secured by iron girders to chimneys. Iron wire rope, bolts, cables, chains, and other articles, exposed to the action of water, were now coated with zinc, and specimens were shown which had been for some time in use without indicating any chemical change except a coating of a fine white film of oxide of zinc.

Many experiments were performed by the Professor to shew the order in which metals may become positive or negative with respect to each other. The facility with which chemical action takes place in metals was illustrated by plunging plates of zinc and platina into common spring water. That chemical decomposition took place, and electricity was evolved, was proved by connecting the plates with a delicate galvanometer. The needle was immediately deflected east or west, according to the course taken by the current. It was then proved, that the more easily the one metal was acted on and the less easily the other, the more marked is the effect. Hence, platina and zinc are most favourable for the evolution of the current. When zinc and copper are immersed in an acid, the zinc becomes positive, but this is entirely owing to its becoming most acted on chemically. The galvanometer was here used to show the deflection of the needle towards the zinc side. In using the same metals, but taking a liquid such as an alkaline sulphuret, which acts more on copper than on zinc, the copper becomes the positive metal and the needle is deflected in the opposite direction. This proved that the evolution of electricity depended entirely on chemical action.

The Professor then adduced many illustrations of electro-chemical action by contact of metals, shewing the great importance of attending to these principles in the arts. Formerly, the copper sheathing of ships was fastened with iron nails. These were rapidly destroyed, and the sheathing dropped off. Copper nails are now substituted. Iron railings let into stone with lead, speedily wear away at the point of contact, and leaden roofing fastened by iron nails, soon becomes loose from the rusting of the iron.

Plates of different metals had been allowed to stand for some days in vessels containing a weak solution of chloride of sodium. In those cases in which the iron and copper had not been protected by more easily oxidizable metals, a strong chemical action was manifested.

The Professor concluded the lecture by again calling attention to the important uses to which zinced iron might be put, and to its durability. He stated that the roofing of the new Houses of Parliament was formed of it, and that a thousand tons had been thus used about the building. The water collected from these roofs was very pure. He had found, in rain-water collected from a vast surface of roofing in the Houses of Parliament, no iron, and only a minute trace of zinc.

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## ACADEMY OF SCIENCES, PARIS.

**January 26th.**

### *Magnetism and Light.*

The Academy was occupied with the discussion of the recent discovery of Professor Faraday on the analogies which exist between Electricity, Magnetism, and Light. Professor Faraday had addressed a letter to

M. Dumas, stating the nature of his discovery of the *diamagnetism* of bodies, *i. e.* a power which they possess of arranging themselves when exposed to a strong current of magnetism, in a direction opposite to its course, or tranversely. Iron, it is well known, arranges itself in a line with the current, and all the components of a magnetic substance, such as chrome or manganese, have the same magnetic properties as pure iron. Among diamagnetic bodies, or those which arrange themselves in an equatorial direction to the current, are ether, oil, wood, muscle, blood and many other substances; but those which possess the property of diamagnetism in its greatest intensity, are heavy glass, phosphorus, antimony, and bismuth. This is an entirely new property of matter.

### ON THERMAL SULPHUREOUS WATERS IN THE TREATMENT OF PHTHISIS.

A PAPER was read, which had been addressed to the Secretary by M. Lallemand of Vernet, on the therapeutical effects of thermal sulphureous waters in the treatment of *phthisis*. M. Lallemand, after complaining of the difficulty attending the employment of sulphureous waters in cases of phthisis during the winter season, proceeds to show that the establishment of Vernet is as well or better adapted for the purpose, than the most favoured spots in Italy. The first requisite for the successful employment of the waters he considers to be, that the whole establishment should be maintained at a uniform temperature of 68°. The various schemes in use for supplying artificial warmth fail in maintaining this temperature day and night; and M. Lallemand has, therefore, had recourse to the circulation of the thermal water itself throughout the establishment. The supply of water must be abundant, and its temperature must not be under 140°, or it will fail in answering the intended purpose. The establishment of Vernet comprises, according to M. Lallemand, all the necessary conditions. In general, thermal waters are either used as baths or taken internally; but M. L. has here devised a plan for making the sulphureous vapours reach the lungs of the patients by causing them to pass some hours daily in a large apartment, maintained by the current of vapour which passes in from below and escapes above, at a temperature of from 64° to 68°. This mode of treatment begins speedily to shew its good effects; and the patients become gradually accustomed to remain for twelve hours together in the thermal room without inconvenience. It is stated that several individuals at present in the establishment have been completely cured of confirmed tubercular phthisis (?) of a chronic character.

### A NEW METHOD OF DISTINGUISHING ARSENICAL FROM ANTIMONIAL DEPOSITS IN THE USE OF MARSH'S TEST.

M. LEROY proposes for this purpose the use of hydrosulphuret of ammonia, either alone, or conjoined with the use of chlorine and bromine. He finds that an antimonial deposit touched with hydrosulphuret of ammonia is immediately dissolved; while that produced by arsenic only slowly disappears, being, however, more soluble at a high than at a low temperature. Hence heat should be avoided in the performance of the experiment; and at the common temperature M. Leroy found that arsenic was scarcely affected by the reagent.

*** There must surely be some fallacy about this result, which after all is only relative. The compounds of arsenic are well known to be very soluble in hydrosulphuret of ammonia.

## ACADEMY OF MEDICINE.

January 27th.

THE Academy was occupied in an uninteresting discussion on the use of iodine injections in arresting dropsical effusion into the peritoneum. M. Fontan related a case which he considered to bear out his view of the utility of the practice. A patient labouring under dropsy having been tapped several times without effect, a solution consisting of 32 parts of tincture of iodine, 4 parts of iodide of potassium, and 150 parts of water, still further diluted, was injected into the peritoneal cavity after the fluid had been again drawn off. This injection was thrice repeated. No more serous liquid was effused in the abdomen, but the patient became anasarcous, and from this condition he slowly recovered. M. Blandin condemned the practice as dangerous, and thought that the irritating liquid must have been injected into a serous cyst, and not into the peritoneal cavity. It is unnecessary to give the views of the whole of the members, who appeared to be pretty equally divided in opinion. The paper was ultimately referred to a committee.

*** Considering the extent of surface presented by the peritoneum, and the well-known irritating properties of iodine, M. Fontan's patient appears to have had a very fortunate escape.

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WE learn from our new contemporary, the *Gazette Médico Chirurgicale*, that the French Government are about to endow three new chairs: one for pathological anatomy, at Montpellier; a second for the history of medicine, at Strasburg; and a third for comparative anatomy, at the Paris School of Medicine. A sum of 60,000 francs has been set aside for three preparatory schools, at Lyons, Bordeaux, and Toulouse.

# Selections from British and Foreign Journals.

## MEDICAL JURISPRUDENCE.

### CASE OF SURVIVORSHIP, IN WHICH IT WAS PRESUMED AND DECIDED THAT THE WIFE SURVIVED THE HUSBAND.

Hugh Swinton Ball, with his wife and adopted daughter, were lost on board the steamer Pulaski, on the 14th of June, 1838. By his will, he bequeathed to his wife his household furniture, servants, &c., and in case he died without children he gave her all the property received by him in marriage, and other legacies out of his own estate. A claim was made by her heirs, on the ground that she had survived her husband.

Chancellor Johnston heard the case at Charleston, in January, 1839. In his opinion, he first reviews the cases that have already come before various courts, and remarks that in all these "the English and American courts have hitherto carefully avoided the adoption of any rule of decision. The cases have gone off by compromise, or were decided upon a rule adapted to the nature of the question before the court, and not to the question of right as transmitted by survivorship;" or, in the words of Chancellor Kent, "The English law has hitherto waived the question." In proof of this he adduces the well-known cases of Gen. Stanwix and Selwyn, of Taylor *v.* Diplock, and Wright *v.* Sarmuda. Still Chancellor Johnston is not prepared to abandon as delusive all efforts to attain rules capable of deciding the fact of survivorship, even in instances deemed conjectural. But if there be any evidence whatever, even though it be but a shadow, it must govern in the decision of the fact. The *code civil* is indeed grounded on this. It provides that if several persons entitled to inherit from each other, happen to perish, without the possibility of knowing which died first, the presumption of survivorship is determined *by the circumstances of the fact*, and it is only in default of these that rules are enacted, applicable to cases of a more conjectural character.

"In what I have said hitherto I have contemplated a case where the cause of death consisted of one disaster, whether of more rapid or of slower operation. But where the danger consisted of a series of successive operations, separated from each other, and each capable of inflicting death upon the victims according to the degree of exposure to it, there is certainly more scope for testimony and for inference from circumstances, than in other cases."

The facts are thus stated by the chancellor.

"The Pulaski left Savannah on the 13th of June, 1838, and arrived at Charleston that evening. The next morning Mr. and Mrs. Ball, their adopted daughter, and a servant, went on board, and she departed north on her course until about 11 o'clock of that night, when, most of the passengers having retired to their berths, the starboard boiler exploded. By the explosion an extensive breach was made on the starboard side of the vessel. Her main deck was blown off, thus destroying the communication between the forward and after part of the steamer. The forward part of the upper deck (called the hurricane deck, in contradistinction to the after part, which is called the promenade deck,) was blown off, carrying with it the wheel-house, in which the commander of the boat, Capt. Dubois, was sleeping at the time; the gentlemen's forward cabin was much torn, its floor ripped up and its bulk head driven in; and Major Twiggs, whose berth was there, gives us reason to suppose that many perished in that part of the vessel by the explosion. The gentlemen's after cabin (which was under the main deck and immediately beneath the ladies' cabin, which was on that deck) was also injured. Some part of the floor was ripped up, the bulk part of the head partly driven in, and the stairs communicating with the deck more or less shattered. The vessel was careened to the larboard, and as she dipped began to fill with water. In a very short time the hold was filled, and the water gained to the level of the floor of the gentlemen's cabins. It rose higher with great rapidity; the vessel settled to the centre, where the breach was, and all hope that she could hold together was abandoned. She parted amidships, and the forward and after parts pitched into the water, towards the centre, at an angle of nearly thirty degrees. The gentlemen's after cabin was now entirely filled, and the forward cabin was certainly in as bad a condition. There were some persons on the forward part of the vessel, nearly all of whom speedily perished, but the greater number were in the after part, including one or two, who had passed by swimming from the forward to the after part. Of those on the after part, as many as could, climbed to the promenade deck; but there were many, mostly ladies, among whom was Mrs. Ball, who remained on the main deck. These, as that deck sunk deeper and deeper, retreated along the gangways, by the ladies' cabin, towards the stern. The promenade deck, by the action of the waves, was burst from the top of the boat, and was submerged with all that were on it. Whether the stern of the boat was submerged at, or after this time, is uncertain. Some of the witnesses think it was, even before the promenade deck, others that it was not submerged at all. All these events had taken place, according to

most of the witnesses, in about from forty to fifty minutes; according to others, in less time.

"Some few escaped in the boats, others on parts of the wreck, and others on rafts constructed by them as they could. Of Mrs. Ball nothing is known after the submerging of the promenade deck, nor for some time before. Before that event, her cries were heard by one witness, who had gained the promenade deck, as they proceeded from the place she still occupied on the deck below. No witness speaks of her afterwards.

"Within a few minutes after the explosion, according to one witness who knew her, she came out of the ladies' cabin, and began to call upon her husband. The scene was one of terror, as may be supposed; but although a crowd was instantly gathered at that part of the vessel, there was not much noise. The surrounding horrors seem to have subdued the sufferers, and in mute astonishment they contemplated the fate that awaited them. Even the wheels had stopped. Nothing but the sound of the waters, which were somewhat disturbed, and the hasty exclamations of friends, as they sought each other out, and the noise occasioned by such preparations as the more active and prudent felt themselves called upon to make for themselves and others under their charge, were heard. But the voice of Mrs. Ball was heard above all others, calling upon her husband. She ran forward to the chasm caused by the explosion, retraced her steps, and continued to traverse the starboard gangway in search of him, uttering his name in tones so elevated by her agony that they reached most parts of the vessel, and seem to have made an indelible impression upon all who heard them. Her cry, according to one witness, was a cry of bitter despair and anxious inquiry, and according to all, it was lifted in shrill tones, carrying an irresistible appeal to all hearts.

"Mr. Ball was neither seen nor heard. Mrs. Ball was heard and seen by many, but no response was heard to her cries, nor was any one seen to approach her for her protection or consolation. Two witnesses, who knew Mrs. Ball, saw *her*, but did not see *him*. One of them passed and repassed her, in a hurried manner, to be sure, but did not discover him.

"He was neither seen nor heard after the explosion, unless he was the person referred to by two witnesses, who state the following circumstance: Very shortly after the explosion, a boat was let down on the starboard side of the steamer, into which some persons descended as the boat was lying below: a gentleman came to that side of the deck, and throwing a coat into the boat, called to those in it to hold fast a moment, and instantly disappeared. He never reappeared, but the next day the coat was found to be a black dress coat of a large size (such was the size of Mr. Ball), and in one of the pockets was discovered a shirt collar, on which was written the name of Ball, with some initials, which the witnesses have forgotten.

"Now these are the circumstances of the case. It is not the case of an unknown calamity, nor of one withdrawn from observation, nor is it a case where the calamity was of instantaneous operation. It is a case for testimony, and to be decided on testimony."

Chancellor Johnston proceeds to say, that as the right on the part of Mrs. Ball was derivative, the burden is on the plaintiffs to prove that she was the survivor. But although bound to prove this, it does not follow that they are to prove it to demonstration. We must take the best evidence that the case affords.

Although unwilling to rest on the fact, that Mrs. Ball was the last person seen, yet he inclines to the opinion, that, in cases of persons lost by a common accident, this should be the ground of decision. He prefers in the present instance, "to put the case upon the ground of probability, arising from the evidence; upon a belief engendered by a combination of the circumstances, and upon the superiority of positive proof over conjecture or even probability.

"The explosion produced its most fatal effects in the gentlemen's forward cabin, and that was the first part of the vessel which sunk. The after cabin was also much injured. From the forward cabin many persons never escaped. From the after cabin, so far as we know from the evidence, all did escape except Judge Cameron, an infirm old man. But from the description given of its condition, it is possible that some others may have been detained, either from being hurt or otherwise, until the cabin filled.

"It is *certain* that Mrs. Ball escaped the explosion. Is it certain that Mr. Ball did? Mr. Ball engaged a berth in the after cabin. The probability is that he got it, but this is far from certain. The boat came with many passengers from Savannah, which may have occasioned Mr. Ball to be displaced and transferred forward. I think, however, it is not probable he was so transferred, because by an arrangement between the agents in Savannah and at Charleston, they were entitled to let the berths, in alternate order, throughout the boat; and we know that some of the passengers, who came from Savannah, had not the advantage of preoccupying the after cabin, and that some of the Charleston passengers were let into the cabin; Mr. Ball, therefore, was probably in that cabin. But there is a probability that

he was in the forward cabin, and if so, in the greatest danger from the explsoion. Mrs. Ball was clear from that danger *certainly*, Mr. Ball only *probably*. Supposing that he was in the after cabin, still there are chances of his destruction there, from which, we know, Mrs. Ball was totally free. On the deck: we know Mrs. Ball was there. *This is certain.* Is it certain that Mr. Ball had hitherto escaped, and was the person who threw the coat into the boat? It may be that he was the man. I think it hardly probable. I should have thought that he was the man if he had been seen at any time near his wife, or had answered to her heart-rending calls. But it is more probable that some one else, in the hurry of the moment, may have mistaken Mr. Ball's coat for his own, and thrown it into the boat, than that an affectionate husband and brave man, as Mr. Ball is proved to have been, should have heard such appeals as were made to him by his wife, and should at such a time have failed in his duty to her.

"We have indubitable evidence that she had so far escaped; the same evidence, with a moral force which cannot be resisted, convinces us, that he must have already perished, or he would have been at her side. *I have, from all these considerations, formed the opinion, that Mrs. Ball survived her husband.*"

On appeal, (Feb. 1840,) the above decision was confirmed.

The reporter gives the argument of Col. Hunt, counsel for the appellants. The burden of this is, that the exact time of the death of Mrs. Ball is known. She was, from her terror and feebleness, undoubtedly drowned when the deck sank. Mr. Ball may have survived for some time after. The great error (he objects) on the other side, is the resort to negative testimony. He was not seen—he was not heard—therefore he was dead—although no cause of death is traced to him. There is no proof that he was killed by the explosion. He was a good swimmer—he may have caught a fragment of the wreck, and survived a long time. As to Mrs. Ball, this was impossible.

Col. Hunt considers it certain that Mr. Ball had a berth in the after cabin, from which all escaped except Judge Cameron. He is also decided in opinion that it was Mr. Ball who threw his coat into the boat; nor because he was not with his wife does it prove that he was dead. He might have been seeking some means to save her; he might have been looking for his adopted daughter.

"There is no legal proof that Mr. Ball was dead at the time the witnesses heard the cries of his wife. No human testimony can fix the time of his death, while that of his wife is rendered almost certain. And thus, so far from the complainants having established their survivorship, the weight of evidence proves that the husband survived. It is enough for us that the fact is left unsettled. The burden of proof was upon the complainants, and they have failed to establish their position."—*Pell and another v. Ball's Executors.* Cheves' Cases in Chancery, (South Carolina,) vol. 1; *American Journal of Medical Sciences*, 1845.

T. R. B.

Remarks.—This case is singular, inasmuch as there were some apparent grounds for deciding in favour of the survivorship of the wife. Questions of this kind occasionally arise when individuals of the same family perish by a common calamity, as by fire, shipwreck, or in battle. It has been supposed that *medical* evidence was necessary on these occasions; but out of a large number of cases which have come before the Courts of law in this country, it would be difficult to find one in which such evidence was required or allowed to influence the decision.

The civil law adopted and acted on the principle, that the presumption of survivorship was in favour of the individual who enjoyed superior strength and robustness, as of the husband over the wife, and of the parents over the child, if under the age of puberty: but it was well remarked by Sir W. Grant, in Mason *v.* Mason, that in no instance had an English Court of justice adopted *presumptions of fact* from the rules of the civil law. Even in the case of General Stanwix, alluded to by Chancellor Johnston, the suit was compromised,—Lord Mansfield having declared that he knew of no legal principle on which he could decide it. This is sufficient to prove that the artificial rules of the Justinian code which are incorporated into the Code Napoleon, have no influence upon legal decisions in this country. In General Stanwix's case, there was no evidence of the manner of death—the husband, wife, and child, perished with the whole of the crew, in the ship. The case of Pell *v.* Ball, however, here reported, rests upon entirely different grounds; for there was something in the shape of evidence from circumstances to guide the decision of the Court.

While the law of England has not adopted any decided rule, it leaves the question of which of two parties survived the longest (whenever it can be so left), to be determined by a jury or ecclesiastical judge, according to the *facts of the case:* such as the comparative age, strength, and danger to which they were respectively exposed, and any other circumstances calculated to throw light upon it. In illustration of this, a remarkable case is quoted by most law-authorities from Croke's Elizabeth, that of Broughton *v.* Randall. A father and son

were seized as joint-tenants, and to the heirs of the son. Both father and son were hanged at the same time in one cart: but because the son, as was deposed by some of the witnesses, survived, as appeared by shaking his legs and some other tokens, his wife was held entitled to her dower!

Mr. Best has thus summed up the modern practice. If a party, who, by laying claim to property on the ground of survivorship of one individual over another, takes upon himself the onus of proving that survivorship, has no farther evidence than the assumption, that from age or sex, one party struggled longer against their common death than his companion, it seems that no decree would be made in favour of the claim. Thus it is, that medical evidence would be unavailable in such a case. But, on the other hand, it is not quite correct to say that *the law presumes* both parties to have perished at the same moment;—this would be to establish an artificial presumption against manifest probabilty; although the practical consequence is, in many cases, the same,—because, if the party, on whom the onus of proof lies, cannot shew affirmatively which died first, the question will necessarily be treated by the tribunal as a thing by its nature unascertainable; and that, for all that appears to the contrary, both individuals may have died at the same moment. These principles for governing the succession to property, are far better than the artificial rules of the Justinian code. The person in whom the property is vested, is assumed to be the possessor of it, until evidence be given to prove that it has been divested. The case of Pell *v.* Ball shews that a judge is ready to seize any opportunity from circumstances, for deciding according to presumption from facts. —Ed. Gaz.

## PHARMACY.

### AMMONIACAL OINTMENT A SUBSTITUTE FOR BLISTERING PLASTER.

The ammoniacal ointment, when properly prepared, causes vesication in about ten minutes. This rapidity of action renders it preferable to the other preparations used for producing vesication, which seldom act until after the lapse of several hours. Care should be taken that the ointment is properly prepared, or its operation will be slow and imperfect. The formula for its preparation recommended by M. Gondret, the inventor, is as follows:—Hogs lard, 32 parts; oil of sweet almonds, 2 parts; melt at a very gentle heat, and pour the compound into a bottle with a wide mouth: then add strong solution of ammonia (at 25 per cent?) 17 parts. Keep the contents of the bottle well mixed by shaking them until cold. The common cause of the ointment failing, is that the mixture of lard and oil is over heated.* If the lard is too liquid or too warm when the ammonia is added, a portion of this is rapidly lost by evaporation; and the strength of the compound is impaired. When well prepared and kept in a cool place, in a well closed bottle, the ointment will preserve its vesicating properties for more than a month.—*Journal de Pharmacie*, Janvier, 1846.

## TOXICOLOGY.

### CASE OF POISONING BY STRYCHNIA. BY DR. JAMES WATSON.

Agnes Finch, aged 13, September 27th, 1845, has been in the Glasgow Royal Infirmary since the 16th instant, for eczema capitis, which is now nearly well. About half-past 5 P.M. she swallowed three strychnia pills, which belonged to a paralytic patient in the same ward. Each pill contained a *quarter of a grain* of strychnia. She has occasionally been in the habit of taking medicines belonging to other patients. Twenty minutes after taking the pills, she said she felt a strange sensation in her head, and became almost immediately convulsed. The clerk was called, and visited her without loss of time. The following was her state. The arms were found extended and rigid, as also were all the muscles of her body, which was bent backwards at a considerable curve. Pupils were natural. Pulse was obscured from the rigidity of the muscles, but the impulse of the heart was strong. Face was much flushed, and lips livid. Breathing rapid and difficult, but larynx quite free. Spasms of diaphragm very marked. Every few minutes she had a fit of general convulsions. The mind was quite entire, and great fear and anxiety for relief was expressed. The cause at first being unknown, six ounces of blood were abstracted from the temporal artery; cold lotions were applied to the head, and sinapisms to the extremities. Ten minutes after the symptoms began, the owner of the pills told the cause, when a scruple of (sulphate of) zinc was immediately given, and large draughts of warm water, which were eagerly swallowed by the patient. No vomiting, however, was induced for about a quarter of an hour, although the fauces were tickled with a feather; and when the emetic operated, it acted very sparingly. All this time the opisthotonos and universal muscular twitchings had continued most violent: but now, during one of the ineffectual attempts to vomit, the rigidity of the muscles suddenly relaxed, and the spasmodic contractions

* It would be better to melt the lard with the oil, by immersing the vessel containing them in water, the temperature of which is gradually raised.

ceased. The heart's impulse, previously strong, could not now be felt, and respiration was, for the time, extinct. Her face, which, from the commencement of the attack, had continued deeply flushed, became gradually pale from above downwards; her lips remaining livid. She was laid down, and seemed to recover slightly; her chest heaved slowly, and her heart beat feebly, and at long intervals. The flush also somewhat returned to the face, but with the exception of a few twitches, she had no recurrence of the spasms. The pupils were now dilated—the eyes fixed and turned upwards. The stomach-pump was suggested, and immediately applied, but without any good effect. In a short time, the respiration again ceased, and the heart could no longer be felt. The flush, which had been but slight, again descended and disappeared in the neck. Artificial respiration and galvanism to the phrenic nerve were now tried in vain. The patient was dead; death took place a little more than *an hour* after the poison had been swallowed, and in about three-quarters of an hour after it had produced its physiological effect.

*Autopsy, forty-four hours after death.*—Face pallid, abdomen tympanitic, much lividity of depending parts. Post-mortem: rigidity of body in general moderate, but fingers and thumbs very livid, half flexed, firm, and somewhat elastic. Integuments of scalp bled freely on being cut. Brain and its membranes quite natural, excepting turgescence of the velum interpositum and choroid plexus. Spinal cord healthy; its investing membranes rather vascular. Lungs much congested with venous blood. Muscles of heart quite stiff. The right ventricle was flattened into a sharp edge, and was quite empty. The left ventricle was also collapsed and empty. The auricles were in a similar condition. The stomach contained a half-digested meal. Its mucous lining was pale and natural. Other viscera normal.—*Monthly Journal of Medical Science*, Dec. 1845.

Remarks.—We believe that this is the smallest dose of strychnia (three quarters of a grain) which has yet been known to destroy life. The age of the subject must not be forgotten.—Ed. Gaz.

### POISONING BY STRYCHNIA.

An out-patient of the Manchester and Salford Lying-in-Hospital, who had been confined about six weeks previously, was under treatment for a cough. She was able to attend at the hospital herself; and as the woman complained of pyrosis, the apothecary, at the recommendation of one of the medical officers, who advised the use of nux vomica, wrote a prescription, which was sent to the dispensary to be made up. Instead of employing the terms *Pulv. Nucis Vomicæ*, he wrote *Pulv. Strych.*, which the dispenser, a man unacquainted with the uses and doses of drugs, made up accordingly. *Three grains* of strychnia were therefore put up for a dose, instead of nux vomica. The patient swallowed the medicine when she reached home; and the usual symptoms of poisoning,—convulsions, with violent tetanic spasms, followed, ending fatally in *two hours*. A coroner's inquest was held, when the above facts came out in evidence; and a verdict of "Misadventure" was returned, accompanied by a sensible recommendation from the jury, that in writing prescriptions for dangerous remedies no contractions should be used, but the words should be written at full length. — *Abridged from Provincial Journal*, Dec. 24.

Remarks.—This unfortunate occurrence obviously arose: 1. From want of proper caution in the party writing the prescription, since *Pulv. Strych.* could only be taken to signify powdered strychnia. 2. From the extreme ignorance of the dispenser, in not at once perceiving that such a dose of a powerful poison could never have been intentionally prescribed by a medical practitioner. In a toxicological view, there is some interest attached to this case; since the dose of strychnia taken, *three grains*, is the smallest yet recorded to have proved fatal in the *adult* human subject. A fuller account of the symptoms, with the post-mortem appearances, if an inspection was made, would have rendered this case more valuable.—Ed. Gaz.

### CASES OF POISONING BY BELLADONNA. BY H. M. GRAY, M.D. OF NEW YORK, PHYSICIAN TO THE N. Y. CITY DISPENSARY.

Case I.—The subject of the first case was a child between two and three years of age, who had been suddenly seized with alarming symptoms. Suspecting the patient to be labouring under the effects of poison, an inquiry was instituted to ascertain the fact. The mother found in the possession of the child a box from which she had been eating, as shown by the stains upon her lips and fingers. It proved to be the extract of atropa belladonna, which had been used a short time previously by one of the family, in a neuralgic affection. The amount swallowed, as near as could be ascertained at the time, was from eight to twelve grains. The following symptoms presented themselves upon seeing the case some thirty or fifty minutes after the drug had been taken into the stomach.

The expression of the countenance was that of a person in terror—pupils widely dilated and immoveable — the tunica conjunctiva highly injected, and the whole eye promi-

nent and preternaturally brilliant. The face, upper extremities, and trunk of the body, exhibited a diffuse scarlet efflorescence studded with innumerable papillæ, very closely resembling the rash of scarlatina ; the eruption terminated abruptly at the wrists and flexure of the thighs, the rest of the body retaining the natural colour. Skin hot and dry, and pulse much increased in force and frequency

The patient's manner was apoplectic, respiration anxious, and attended with the brazen, stridulous sound of croup. A constant but unsuccessful effort at deglutition was observable, and at every renewal of the attempt the muscles of the throat and pharynx would be thrown into violent spasmodic action. Severe engorgement of the venous trunks was also present. This state of partial coma was alternated by paroxysms of uncontrollable tendency to motion and rapid automatic movement, attended with convulsive laughter. No well-marked convulsions made their appearance, although during the brief periods of sleep into which the patient would fall, a slight subsultus of the muscles of the face and extremities was noticed.

The treatment was that ordinarily pursued in similar cases. The lower extremities were immersed in a mustard bath, while water and pounded ice were applied to the head. An active emetic was immediately administered, the operation of which was aided by the application of local stimulants to the epigastric region, and the free use of warm diluents. The matter vomited contained several portions of the drug in a partially dissolved state. As soon as free emesis had been procured, a strong decoction of coffee was ordered, to combat the soporific effect of the poison, alternated with diluted aqua ammoniæ for the purpose of decomposing any of the belladonna that might still remain in the stomach. The diuretic effect of the atropa now began to be experienced, the patient evacuating an enormous quantity of limpid urine. The alarming symptoms passed off in about three hours after the commencement of the treatment, and the child soon recovered, with the exception of a moderate diarrhœa, and a slight enlargement of the pupil. The eruption had entirely faded.

Case II.—I will relate another case, concerning which I can speak somewhat experimentally, it having occurred in my own person. It is of interest only inasmuch as I was able to note accurately my own sensations during the action of the narcotic. This is an interesting point in the investigation of cases of poisoning, and one about which little can be known, as patients are generally too much occupied with their fears or actual sufferings, to be able to impart much knowledge of their sensations. Although pretty thoroughly narcotized, I watched with some curiosity and care the phenomena induced by belladonna. I had taken an unwarrantably large dose of the article in question, to quiet the pain of a severe neuralgic toothache : not finding any relief, I repeated it in the course of ten or fifteen minutes, swallowing in all some eight or ten grains. About an hour after the last dose had been taken, the medicine began to induce its specific symptoms in the following order. First, vertigo, increasing to such an extent as to render it impossible to walk without staggering. The dizziness, which was at first transient, soon became continued and very severe. Now came on the affection of the eyesight, every object growing dim, as though a cloud were between the eye and it.

Sometimes objects appeared double, and with an undulating motion passed before the eye. I observed that by a strong effort of the will, a concentration of the nervous power, this paralysis of the retina might for a moment be combated ; but only to return with greater severity when the mental effort had been succeeded by its corresponding relaxation. The appearances of the eye were much the same as these mentioned in the former case, viz. : pupil immoveably dilated ; eye prominent, dry, and exceedingly brilliant. The conjunctival vessels were fully injected. There was total absence of lachrymation, and motion was attended with a sense of dryness and stiffness. The face was red and turgid, and the temperature and colour of the surface considerably augmented. Pulse full, and about 120 to 130. The feeling in the head was that of violent congestion ; a full, tense, throbbing state of the cerebral vessels, identically the same sensation as would be produced by a ligature thrown about the neck, and impeding the return of the venous circulation. The peculiar state of the throat next excited attention. The tongue, mouth, and fauces, were devoid of moisture, as if they had been composed of burnt shoe leather. The secretions of the glands of the mouth, and the saliva, were entirely suspended. A draught of water, instead of giving relief, seemed only to increase the unctuous, clammy state of the mucous membrane. About the bag of the pharynx this sensation was most distressing. It induced a constant attempt at deglutition, and finally excited suffocation, spasms of the fauces and glottis, renewed at every effort to swallow. A little saliva, white, and round like a ball of cotton, would now and then be evacuated.

The slight delirium that followed the action of the narcotic was of a strange yet not unpleasant kind. I wished to be in constant motion, and it certainly afforded me an infinite deal of satisfaction to be able to walk up and down. The intellectual operations at times were very vivid. Thoughts came and went, and ludicrous and fantastic spec-

tacles were always uppermost in my mind. I was conscious that my language and gesticulations were extravagant, yet I had neither power nor will to do otherwise than I did; and notwithstading my bodily malaise, the mind was in a state of delightful exhiliration.

The treatment was very simple; cold douche to the head, and an emetic, soon destroyed the dominion of the poison.

In this case as in the other, I found some difficulty in provoking the operation of an emetic, owing to the insensible condition of the stomach. After vomiting, the disposition to sleep became very urgent. Strong coffee, however, counteracted this tendency.

One other fact with reference to the effects produced by belladonna is worthy of note, viz. its tremendous diuretic power. I have observed that it does not seem to reach the kidneys, until it has been some time in the stomach, and has exerted its specific influence upon the brain. But its power over the secretion of urine seems to be very great. I am confident I passed in the course of an hour three pints of urine, accompanied with a strangury at the neck of the bladder.

The nature, properties and effects of atropa belladonna are so well known, that I need not enlarge this paper by alluding to this subject. As there appears to be no positive antidote to its poisonous effects, the treatment must be based upon general principles.

Reasoning from the effects it produces upon a healthy body, its indications to disease become evident. From its property of dilating the pupil, it becomes an indispensable remedy in the treatment of iritis and incipient cataract. In many other affections of the eye, it is a remedy of essential importance. Its effects in painful ulcerations—in pertussis—in neuralgia, and in a host of nervous maladies, are universally recognized.

From its effects. as observed in my own case, I am induced to believe that it may become an important remedy in disease, in the treatment of which, at present, it is but little used.

We have seen the entire suppression of the lachrymal and salivary discharge which it induces. Now in stomatitis, either aphthous or mercurial, attended with profuse discharge of saliva, and in epiphora of the lachrymal sac, I cannot see why it is not the very remedy indicated. In irritability of the eye, more particularly of the retina, its quieting effect would be of immense service. In the cachectic dropsies, attended with great irritability of system, it might also be of use. In anæmia of the brain its congestive powers might be used with evident advantage. The catalogue might be extended, but it is sufficient for purposes of illustration. At all events, whether we adopt the principle, "similia similibus curantur"—or "contraria contrariis curantur," the only effective mode of discovering the indications of disease, and the proper application of therapeutic agents to meet or combat these indications, is by experiments upon the healthy as well as the diseased body, carefully watching the effects produced in each.—*New York Journal of Medicine*, Sept. 1845.

## PATHOLOGY.

### ON THE FORMATION OF CRYSTALS IN THE MORBID PRODUCTS OF THE HUMAN BODY. BY DR. GUNSBURG*.

The first mention of the formation of crystals in the products of the human body was made by *Schönlein in* 1836, who noticed their occurrence in the excrements passed by typhus patients. Subsequently to this, Valentin described crystalline particles which he found in the cricoid cartilage, and calcareous deposits which he observed in ossified vessels and in concretions of the thyroid body of the peritoneum and of the pleura. Gluge endeavoured to prove a more general occurrence of crystal formation, both in normal and abnormal conditions: in the former case, in saliva, in the secretion of the conjunctiva, in bile, in the fluid of perspiration, and in excrementitious matter; in the latter, in the pus of a simple abscess, in chancre, gangrene, typhus, intestinal tubercle, and medullary cancer. Nasse observed quadrilateral plates of cholesterine in the fluid obtained from a bronchocele, and in pus from a joint. Lastly, Vogel has described crystals of cholesterine occurring in old pulmonary tubercles, in fatty degeneration of the liver, in the atheromatous deposits within the coats of arteries and other parts. Dr. Gunsburg observes that crystalline deposits are seldom found in the products of recent inflammation; for although in an inflammatory condition of the system the quantity of saline ingredients in the blood is increased, yet the salts are reduced to their natural proportion by the abnormal action of the kidneys.

In case, however, the kidneys are unequal to the performance of so great an amount of extra work, then is the formation of crystals within the inflammatory products apt to take place: thus, in a case of pericarditis with granular degeneration of the kidney, Gunsburg found crystals formed within the material exuded into the sac of the pericardium. Crystalline products are much more frequently found as a consequence of a previously existing, but long since subdued inflammation, especially of the spleen (in which they occur together with pigment cells), and of the mesenteric glands. In these cases the formation of crystals takes

* Müller's Archiv. 1837, p. 463.

place in consequence of the destruction of the organized morbid product which was poured out; and these crystals remain because of their inability to be destroyed, or to be absorbed, like organic matters. That these crystals are not formed in the height of the inflammatory action, but during the receding metamorphosis undergone by the diseased product, would seem evident from their being invariably found in company with black pigment cells. When the formation of crystals does occur as an immediate attendant upon inflammation, it is in cases where the inflammatory action has resulted in softening, or in gangrene. Crystals are observed in the greenish-black fluid vomited in a case of perforating ulcer of the stomach, and in the fluid found in the stomach after death. Crystals, especially simple rhomboids, are also found on the softened mucous membrane of the ileum, and on the sloughs of the intestinal canal observed in many cases of typhus. Another kind of crystalline formation occurs in the atheromatous deposits which take place within the valves of the heart and on the internal surface of the chief arterial trunks. The formation of crystals also takes place within certain spontaneously originating morbid processes, such as cysts; the crystals in such cases are usually those of the highest development—such as cholesterine, stearine, or some of their salts. In some cases there occurs a simple secretion or deposition of the inorganic crystalline matters, as in the fatty organization of various organs, such as of the liver, kidney, and thyroid body. The occurrence of crystals in the various forms and modifications of tubercles is very common, being met with in the tubercular form of granulation, in the firm infiltrated pulmonary tubercle, in the tubercular infiltration in the neighbourhood of a vomica, on the internal surface of a vomica, in calcareous tuberculous matter, in tubercles of the pericardium, in a tuberculous cavity of the kidney, and in tuberculous ulcers of the intestines. To the crystals occurring in these various parts, Dr. Gunsburg assigns certain definite forms. In these various cases, where the formation of crystalline substances takes place within tuberculous matter, the process occurs simultaneously with the degeneration of the tubercle cells; from which circumsance, and from the fact of the calcination commencing usually in the centre of the tuberculous mass, within which we found no vessels to pour out any calcareous matter, it seems probable that the earrthy matter may form an ingredient in the composition of the tubercle cells; and that upon the destruction of these cells, the earthy matter, from its inability to be absorbed or to disappear, remains alone, and the whole tuberculous mass becomes converted into a heap of earthy matter—one mode in which tubercle becomes cured. When the tuberculous matter softens and forms a vomica, the crystals, with the other elements, are rejected in the sputa. Dr. Gunsburg describes the occurrence of crystals in large quantities in the intestines of typhus subjects: they may be found over a large portion of the intestinal mucous membrane, but especially on that covering the typhous *plaques*; also within the sloughs, and on the ulcerated surfaces left by the separation of the sloughs. In the interior of mesenteric glands which are filled with typhous material, fully formed six-sided crystals may be found, even although the morbid product be of recent deposition. Crystals are never found on the cicatrices of typhous ulcers. The blood in typhus is characterized, as the disease advances to its height, by deficiency in its solid ingredients, especially in its salts. From the first occurrence of the typhous affection of the intestines until the formation of sloughs, crystals are being deposited from the blood, simultaneously with, and in exact proportion to the quantity of, albuminous matter, or proper typhous material, poured out. But on the formation of sloughs, when the typhous product has ceased to be poured out, and the blood is greatly deficient in salts, it is probable that the crystals still deposited on the intestinal mucous membrane are derived from the chyle. Gunsburg states that he has seldom found crystals in the various kinds of cancer, and that Gluge was wrong in regarding the occurrence of them as characteristic of medullary cancer. From his various observations, Gunsburg deduced the following general conclusions:—1st. That the form assumed by the crystals is no characteristic sign of any peculiar morbid process; the larger quantity of crystals had a rhomboid figure; several found in tubercles belonging to the cubic system, and some of those in typhus were quadrilateral, yet no particular rule was observed. 2. That the formation of crystals takes place when, in consequence of a morbid process, a simple formative meterial, including both organizable and inorganic principles, is poured from the blood into an organized part, within which the organic elements can assume an independent resistance and be converted into fibres and cells, whilst the inorganic ones are left to assume a crystalline form. This is observed in the case of some cysts.

3. The formation of crystals ensues when a natural tissue degenerates and becomes converted either (and especially) into a simpler and lower form of organised structure, as in fatty degeneration, or becomes completely destroyed, as in mortification. 4. Crystallization ensues when, either by the absorption of the organic particle of a mor-

bid deposit, or by some changes undergone by it, its place becomes occupied by earthy matter, which probably existed previously as one of the ingredients of the deposit, and, unlike the organic part, could neither become absorbed or destroyed; this is observed in the products of old inflammation and in tubercles. 5. The formation of crystals takes place when, through the existence of disease, a secreting organ is rendered incapable of separating from the blood those salts which it is its function to remove; for in this case the surplus of such salts becomes deposited in any part that is the seat of especial congestion; as an example of this may be instanced the deposits which take place on inflamed parts, in a subject affected with degeneration of the kidneys. 6. The formation of crystals in some cases results from the attraction of earthy particle from the blood by a substance made up of similar earthy matter;—this is sometimes seen in the stalactitic kind of crystallization on the valves of the heart, and on the inner surface of the great vessels. This power of abstracting the saline ingredients from the blood, only comes into play when the earthy deposit comes into actual contact with the blood, as when the lining membrane of the great vessels, or that covering the valves of the heart, cracks, and allows the earthy matter deposited within to project through into the stream of blood: in this case the already deposited earthy matters act as so many nuclei or points of contact in a saline solution, the effect of which is shewn in ordinary crystallization, where the formation of crystals is so much accelerated by the presence of one or more nuclei, especially when such nuclei are crystals of the same composition as that of the salt in solution. 7. In typhus the formation of crystals occurs in part simultaneously with the deposition of the typhous product from the blood, and in part probably from a morbid condition of the chyle. — *Schmidt's Jährbucher*, No. 4, 1845 *.

## Correspondence.

### ON OX-GALL IN CONSTIPATION DURING PREGNANCY.

Sir,—It did not strike me, when in a former paper discussing the merits of ox-gall, to suggest one very important point connected with its administration. Some women suffer severely during the whole period of gestation, from obstruction of the bowels—it is, in fact, a general attendant on pregnancy, and arises partly from pressure of the uterus on the rectum, and partly from increased activity of the womb itself, producing a sluggish motion of the intestines. It increases the general morbid irritability of the system, and frequently causes irritation of the bowels, which may excite premature labour. The irritable state of the stomach, by which it is generally accompanied, precludes the possibility of its retaining an active aperient medicine. In other cases, also, where no preternatural irritability exists in this organ, the practitioner is averse to resort to drastic purges. The following case, which has just occurred in my practice, affords an additional exemplification of the value and safety of the ox-gall:—A lady, about three months advanced in her first pregnancy, who had for years been more or less obstinately constipated, was attacked with almost unceasing nausea, frequently accompanied by vomiting. The bowels never acted spontaneously, and the mild aperient medicines, which had been heretofore administered, were instantly rejected by the stomach; it was vain, therefore, to anticipate relief from them. In the first instance, I recommended simple tepid water-enemata, but no relief followed. The beginning of last week, her husband called to inform me that the constipation had increased to an alarming degree; the bowels had not been relieved for many days, and partially only for several preceding weeks. I then resorted to the inspissated ox-gall, a drachm of which I directed to be dissolved in about a pint of warm water, and used as an enema. The relief was instantaneous; a mass of scybala being expelled which had evidently lain impacted in the colon, and given rise to the symptoms I have enumerated.

Now, here we have an agent which succeeded when the ordinary remedies were perfectly useless, and I deem it an important fact to be generally known; for medical men are often sorely puzzled to devise means of overcoming, safely and promptly, the serious obstruction which frequently occurs in pregnant women.

By the way, a good deal of amiable dispute has arisen about the merit of introducing ox-gall into recent practice; but Dr. Copland assures me, that he not only employed it, but publicly acknowledged (as his works will testify,) its efficacy as a therapeutical agent, some *fifteen years ago*.—I am, sir,

Your most obedient servant,

R. H. Allnatt, M.D.

P.S.—I am happy to observe that most of the London chemists now keep the various preparations of ox-gall. Mr. Dinneford has recently sent me a specimen of the desiccated, and Mr. Hooper, of Pall Mall,

* The above subject seems to have been considered quite without reference to the occurrence of urinary crystals.—Ed. Gaz.

East, has some beautiful preparations of the inspissated form. Mr. Hooper fully coincides with me, that the outcry against the deterioration by keeping, of well-prepared *inspissated* ox-gall, is entirely groundless. —R. H. A.

7, Suffolk Place, Pall Mall East,
January, 1846.

### FISTULOUS OPENING BETWEEN THE ŒSOPHAGUS AND LEFT BRONCHUS.

Anne Harris, æt. 45, had been ailing for a long period with difficulty of deglutition and other symptoms of stricture of the œsophagus. The case presented nothing remarkable until a few days before death, when the patient was suddenly seized with an incessant cough, accompanied with a profuse expectoration of a bloody mucous fluid, having an unpleasant sour odour. The expectoration was so abundant, and came on so suddenly, that I could not account for it by ordinary causes, and was led at the time to suppose that some malignant tumor had produced ulceration in the trachea, and that its contents were being discharged into the air passages. The poor woman suffered greatly from hunger, as no kind of food could reach the stomach; life, however, was prolonged for about a week by means of enemata of beef-tea and laudanum, from which she derived considerable comfort.

A post-mortem examination revealed the following singular lesions. The portion of the œsophagus which lies contiguous to the left division of the trachea formed a large pouch, capable of holding a hen's-egg. The walls of this pouch appeared to have been produced by ulceration of the surrounding tissues, as portions of the aorta and of one of the bronchial glands were denuded, and formed part of the boundaries of the cavity. In the anterior part of the pouch there was an ulcerated opening, which communicated with the left bronchus about an inch below the bifurcation of the trachea. Immediately above and below the pouch the œsophagus was thickened, contracted, and hardened, forming, as it were, two scirrhus-like rings. The œsophagus in its other divisions appeared quite healthy. The lower portion of the left lung was hepatized to a great extent, and the mucous membrane of its bronchial tubes vividly injected. The right lung was quite healthy.

This curious case needs little comment. The lodgment of food in the œsophagus no doubt led to the ulceration, and the entrance of foreign matter into the bronchus must have occasioned the disease of the lung.

J. M. Winn, M.D.
Physician to the Truro Dispensary.
Truro, Jan. 29th, 1846.

## Medical Intelligence.

### MEDICAL APPOINTMENT.

M. Boyer has been nominated, by concours, to the professorship of pathology at Montpellier. The other competitors were MM. Alquié and Quissac.

Dr. T. B. Peacock has been elected Physician to the Royal Free Hospital.

Dr. Charles Hutton has been elected Physician to the Royal Infirmary for Children, in the room of Dr. Lawson Cafe, resigned.

### ENGLISH MEDICAL PRACTITIONERS IN FRANCE.

In 1831, Dr. B——, who holds his diploma from the University of Aberdeen, was authorized by royal ordinance to practise in France. Last year he was sentenced to six months' imprisonment, 500f. fine, and 1,000f. damages, for having prescribed, in ignorance of the common principles of his art, an arsenical preparation which caused the death of a patient. The *Moniteur* now publishes a royal ordinance revoking the authorization given to him to practise in this country. The Minister of Public Instruction, in his report to the King, recommending this proceeding, says—"Previously to the affair in question, serious complaints had been made of this person, and they were evidently but too well founded. I have, therefore, the honour to submit to your Majesty the draught of an ordinance revoking the authorization granted to M. B——. Inasmuch as France is liberal in her reception of learned foreigners worthy of her hospitality, she is bound to be severe towards those who do not merit to be adopted by her."—*Times.*

### STATE OF THE PUBLIC HEALTH IN THE LAST QUARTER.

The Quarterly Returns are obtained from 115 districts, sub-divided into 576 sub-districts. Thirty-four districts are placed under the metropolis, and the remaining 81 districts comprise, with some agricultural districts, the principal towns and cities of England. The population was 6,579,693 in 1841. The mortality in the last quarter of 1845 was much lower than is usual, for only 39,178 deaths were registered, which is less by 14,740 than the number (43,918) registered in the corresponding quarter of 1844; and 2357 less than the average of the corresponding quarter of seven previous years, notwithstanding the increase of the population at the rate of about 1·74 per cent. annually. The fluctuations in the mortality, above and below the average, are exhibited in the following series of numbers.

The lower line is deduced from the return in the December quarter of 1838, and shows what the deaths would have been if they had increased in the same ratio as the population.

| | 1838 | 1839 | 1840 | 1841 | 1842 | 1843 | 1844 | 1845 |
|---|---|---|---|---|---|---|---|---|
| Deaths registered in the December Quarters of 8 Years . . . . . | 40,030 | 41,598 | 44,044 | 39,165 | 39,544 | 42,449 | 43,918 | 39,178 |
| Deaths which would have been registered if the numbers had increased from 1838 at the rate of 1·74 per cent. annually | 40,030 | 40,788 | 41,560 | 42,347 | 43,149 | 43,966 | 44,799 | 45,647 |
| Difference *above* the calculated number . . . | ... | 810 | 2,484 | ... | ... | ... | ... | ... |
| Difference *below* the calculated number . . . | ... | ... | ... | 3,182 | 3,605 | 1,527 | 881 | 6,469 |

The mildness of the season was one cause of the diminished mortality. A fall of the mean temqerature of the air from 45° to 4° or 5° below the freezing point (32°) of water, destroys from 300 to 500 lives in the metropolis. It produces the same results on a larger scale all over the country. Nor is it to be wondered at that a great change of the heat of the air which we breathe and live in should have such an effect.

The population increased in the districts, from which returns have been procured, about 1·74 (nearly $1\frac{3}{4}$) per cent. annually, in the intervals of the last censuses,—and the excess of births over deaths has continued,—so that it may be safely assumed, that the numbers living have gone on increasing at the same rate—about 9 per cent. in the five years, from the middle of 1839-40 to the middle of 1843-5. Now, the deaths, instead of increasing with the population 9 per cent. and consequently amounting to 541,960 in the last three years, were 496,698—less by 45,262 than if the rate of mortality, which prevailed in the three years 1838-40, had been sustained. The improvement may perhaps be partly accounted for by other circumstances; but as far as can be seen at present, it is fairly ascribable to the partial removal of nuisances from large towns, to some increase of employment, and, we may hope, a consequent amelioration in the condition of the great body of the people in the dense town districts of the kingdom. But an epidemic, generated in this or any neighbouring population, may speedily reverse the results of the Tables, and carry off the thousands of lives that appear to have been spared and saved.

*A Table of the Deaths in the Metropolis from all causes, registered in the last quarters of the years*, 1844-45.

| Causes of Death. | Quarters ending Dec. 1844. | 1845. |
|---|---|---|
| All Causes . . | 13656 | 11695 |
| Specified Causes . | 13619 | 11631 |
| Small Pox . . . . | 571 | 106 |
| Measles . . . . | 385 | 927 |
| Scarlatina . . . . | 872 | 269 |
| Hooping Cough . . . | 277 | 557 |
| Croup . . . . | 102 | 82 |
| Thrush . . . . | 52 | 46 |
| Diarrhœa . . . . | 129 | 199 |
| Dysentery . . . . | 34 | 25 |
| Cholera . . . . | 5 | 11 |
| Typhus . . . . | 385 | 358 |
| Sudden Deaths* . . . | 186 | 82 |
| Hydrocephalus . . . | 372 | 386 |
| Apoplexy . . . . | 311 | 272 |
| Convulsions . . . | 699 | 450 |
| Bronchitis . . . . | 394 | 591 |
| Pleurisy . . . . | 30 | 43 |
| Pneumonia . . . | 1405 | 1131 |
| Asthma . . . . | 366 | 190 |
| Phthisis or Consumption . | 1676 | 1382 |
| Disease of Lungs, &c. . | 256 | 145 |
| Pericarditis . . . | 35 | 22 |
| Aneurism . . . | 10 | 19 |
| Disease of Heart, &c. . . | 429 | 376 |
| Teething . . . . | 171 | 113 |
| Childbirth . . . . | 121 | 95 |
| Old Age . . . . | 898 | 519 |
| Violent Deaths . . . | 394 | 299 |

### THE SUPPORT GIVEN TO QUACKERY BY MEDICAL JOURNALS.

Our Gallic cotemporary, the *Gazette des Hopitaux*,† after making a great flourish about the legitimate rights and duties of medical men, and recording the benefits which the members of the Parisian Medical Congress have already brought about, as well as the prospective good which they are likely to achieve, gives at the same time a direct support to quackery, by introducing into its pages, advertisements of all descriptions of quack medicines! Thus while in one page it mentions with triumph the intended suppression of a class of half-educated practi-

* Inquests of death in which the cause was not assigned.

† Janvier 4, 1846.

tioners in France,—in the next it favours us, in extra-sized type, with notices of the incomparable virtues of the "Pilules de Morison, Prèsident du Collège Britannique de Santé de Londres," the "Sirop Pectoral de Lamouroux," the "Pilules Ferrugineuses de Vallet, &c."! This assuredly displays a great want of consistency, since one of the most fertile sources of profit to quacks is the notoriety thus given to their pretended medicines. It appears to us to be the duty of a *medical* journalist rather to display the mischief which these so-called medicines are liable to cause, than to become the trumpeter of the pretended cures which they are described to have effected. We suppose, however, the practice will be defended by the old *argumentum ad crumenam*. It is, however, highly discreditable, and one which all right-minded professional men will condemn.

### THE CLIMATE OF LONDON.

From a series of extensive observations made during the year 1843, under the superintendence of the Astronomer Royal at the Greenwich Observatory, the following facts have been ascertained :—

| | Spring. | Summer. | Autumn. | Winter. | Year. |
|---|---|---|---|---|---|
| Mean temperature . . . | 47·4 | 59·8 | 50·5 | 40· | 49·4 |
| Mean temperature of the dew point | 43·5 | 54·9 | 46·9 | 37·6 | 45·7 |
| Mean degree of humidity . . | 0·878 | 0·856 | 0·889 | 0·922 | 0·887 |
| Mean height of barometer . . | 29·7 | 29·78 | 29·78 | 29·79 | |

### BETHLEM HOSPITAL.

The Committee of Management of Bethlem have lately issued the following form of certificate for admission of a patient to that Institution. It is scarcely necessary to say how important it is that the qualification of the medical attendant should be stated, particularly as only one certificate is required, and there are so many unqualified men in practice.

*Certificate of Insanity.*

I the underwritten residing at in the Parish of in the County of do Certify that I have examined of the Parish of in the County of and that such Person is a Lunatic, and is not within any of the foregoing Seven Regulations which are declared to render patients inadmissible at Bethlem Hospital: And I further Certify that I have given to the Friends of the said Lunatic a Letter, addressed to the Physicians of Bethlem Hospital, containing a Statement of the Particulars of such Patient's case, as far as I am acquainted with it. Witness my Hand the Day of 184

Fellow / Licentiate } Of the Royal College of Physicians, London.

Graduate in Medicine of the British University of

Fellow / Member } Of the Royal College of Surgeons of England.

Apothecary duly authorised to practise by the Apothecaries' Company, London.*

At the Quarterly Court held on Monday last, the Report of the Physicians was read: it was similar to the Report of the Committee for 1842 and 1843. The number of male patients admitted in 1845 was greater than the previous years, shewing that the desire to get admission into Bethlem was not diminished. The cures last year were upwards of 57 per cent. or 7 per cent. more than in 1844; the deaths were under 5 per cent., or 2 per cent less than in 1844. These facts prove strongly the advantages of the recent improvements at this Asylum, which are now sanctioned and zealously carried out by the authorities.

* The medical practitioner who signs this certificate is requested to write his name against the proper denomination.

### AGRICULTURAL CHEMISTRY.

If a further illustration of the service to be expected from chemistry, by the agriculturist, be required, we may observe that the use of guano, as a fertilizing manure, seems to be sanctioned by abundant experience and the best authorities. The cost of this material to the farmer is from twelve pounds to fourteen pounds per ton, without reckoning inland carriage. Now guano is a compouud substance, containing many elements, and an important question is, upon which of these its value as a manure depends? Liebig has recently suggested that it is the phosphate of

lime. If experience should establish the truth of this opinion, it must be of the highest interest to the farmer to know that many rocks are found in this country containing as much as eighteen per cent. of that salt. So that many persons may have paid twelve pounds a ton for an imported substance, a perfect substitute for which lies at their own door, to be obtained literally without cost. Another element, potash, has also lately been met with in many subsoils, where its presence was not before recognized. This is also an article of known importance in increasing the fertility of the soil. And it is, perhaps, not too sanguine to express an opinion that Great Britain most probably contains, laid up in the strata beneath her soil, an inexhaustible supply of materials adapted to render her surface fertile—mines of fossil manures, which will hereafter prove to agriculture, what her fossil fuel (coal) is to manufactures.—*Prospectus of the Royal College of Chemistry.*

### TENACITY OF LIFE IN INFUSORIA.

In addition to the rapid multiplication of these minute organisms, some of them, such as the flour-eels and wheel-animals, manifest an extraordinary tenacity of life. Thus they have been observed to recover after they had been kept thoroughly dried *in vacuo* for *twenty-eight days*, by the aid of chloride of calcium or sulphuric acid; and they even recovered after they had been exposed to a heat of 248° Fahrenheit!—*Notes to Humboldt's Kosmos.* The last-mentioned circumstance certainly appears very extraordinary, but M. Delaroche exposed himself to a temperature of 228° Fahrenheit.

### DISINFECTION OF BODIES FOR ANATOMICAL PURPOSES.

We learn from a report in a late number of the *Gazette Médicale*, that a new method has been discovered for the preservation of dead bodies. The subjects used for dissection at the Ecole Pratique, have been preserved by this process, and so perfectly had it succeeded, that the bodies were in exceedingly good condition after having been in the hands of the pupils for several weeks. The plan consists in injecting into the arteries a strong solution of the sulphite of soda in water. Putrefaction is thereby arrested for several weeks, and, for further preservation, lotions of the chloride of zinc may be used. When subjects are thus treated, the organs preserve their form and natural colour; the steel instruments used in dissection undergo no change, and there is no smell even at a short distance from the body. This important result is likely to have a beneficial influence on the health of medical pupils, and on the pursuit of anatomy.

*** We cannot answer for the success of this plan, but the reporter speaks most confidently of it. The sulphite of soda probably acts by absorbing oxygen and becoming converted to sulphate. The sulphite is easily made by passing sulphurous acid gas (obtained by boiling copper-clippings in oil of vitriol) into a saturated solution of carbonate of soda, until effervescence ceases.

### COMPOSITION OF AEROLITES.

The specific gravity of aerolites varies between 1·9 and 4·3—on an average about 3. It is an interesting fact, supposing, as it is now believed, that these bodies are really independent of the earth, that their constituents are the same as those which are scattered through the crust of the earth. They consist of eight metals—iron, nickel, cobalt, manganese, chrome, copper, arsenic, and tin; five earths; potash and soda; sulphur, phosphorus, and carbon: in all, one-third of the simple substances at present known. Although the elements are terrestrial, their mode of union is unknown, but it is certainly unlike that of all rocky compounds. The iron is in the native state, *not oxidized.* It has been finely said of these aerolites, that they represent a portion of the *rough* material of the universe.—*Humboldt's Kosmos.*

### DR. FORBES ON THE PRESENT STATE OF MEDICINE.

Such as it is, our project of reform, is, at the least, as conservative as radical. We are not altogether discontented with the general principles on which medicine, considered as a science, is now studied by many men of education; we do not object greatly to the mode in which we know it to be exercised as an art by many of its professors; but we cannot shut our eyes to the enormous mass of its defects, or to the grievous evils which result, both to the community and the profession, from the way in which it is carried out in detail, by a large proportion of existing practitioners. It is with a view to the removal of these defects and evils—as far as they are removable—that we would fain excite the interest and claim the attention of our readers, and, through them, of the profession generally.

In submitting the following suggestions to criticism, we would request, that their extemporaneous and undigested character be borne in mind. All of them, we believe, to be true and just; many of them of high importance; and although more mature reflection may prove some of them, at least, to be neither the one nor the other, we shall, nevertheless, not regret having written them. They may excite others to consider this momentous subject, and thus elicit from better minds, thoughts worthier of remembrance and fruitful of greater things.

*Cogitanda—Excogitanda—Agenda.*

1. To endeavour to ascertain, much more precisely than has been done hitherto, the natural course and event of diseases, when uninterrupted by artificial interference; in other words, to attempt to establish a true Natural History of human diseases.

2. To reconsider and study afresh the physiological and curative effects of all our therapeutic agents, with a view to obtain more positive results than we now possess.

3. To endeavour to establish, as far as is practicable, what diseases are curable and what are not; what are capable of receiving benefit from medical treatment, and what are not; what treatment is the best, the safest, the most agreeable; when it is proper to administer medicine, and when to refrain from administering it; &c. &c.

4. To endeavour to introduce a more philosophical and accurate view of the relations of remedies to the animal economy and to diseases, so as to dissociate in the minds of practitioners the notions of *post hoc* and *propter hoc*.

The general adoption by practitioners in recording their experience, of the system known by the name of the *Numerical method*, is essential to the attainment of the ends proposed in the preceding paragraphs, as well as in many that are to follow.

5. To endeavour to banish from the treatment of acute and dangerous diseases, at least, the ancient maxiom, *melius anceps remedium quam nullum*, and to substitute in its place the safer and wiser dogma—that where we are not certain of an indication, we should give nature the best chance of doing the work herself, by leaving her operations undisturbed by those of art.

6. To endeavour to substitute for the monstrous system of Polypharmacy now universally prevalent, one that is, at least, vastly more simple, more intelligible, more agreeable, and, it may be hoped, one more rational, more scientific, more certain, and more beneficial.

7. To direct redoubled attention to hygiene, public and private, with the view of preventing diseases on the large scale, and individually in our sphere of practice. Here the surest and most glorious triumphs of medical science are achieving and to be achieved.

8. To inculcate generally a milder and less energetic mode of practice, both in acute and chronic diseases; to encourage the Expectant preferably to the Heroic system,—at least where the indications of treatment are not manifest.

9. To discountenance all active and powerful medication in the acute exanthemata and fevers of specific tppe, as small pox, measles, scarlatina, typhus, &c. until we obtain some evidence that the course of these diseases can be beneficially modified by remedies.

10. To discountenance, as much as possible, and eschew the habitual use (without any sufficient reason) of certain powerful medicines in large doses, in a multitude of different diseases, a practice now generally prevalent and fraught with the most baneful consequences.

This is one of the besetting sins of English practice, and originates partly in false theory, and partly in the desire to see manifest and strong effects resulting from the action of medicines. Mercury, iodine, colchicum, antimony, also purgatives in general and bloodletting, are frightfully misused in this manner.

11. To encourage the administration of simple, feeble, or altogether powerless, nonperturbing medicines, in all cases in which drugs are prescribed *pro formâ*, for the satisfaction of the patient's mind, and not with the view of producing any direct remedial effect.

One would hardly think such a caution necessary, were it not that every-day observation proves it to be so. The system of giving and also of *taking* drugs capable of producing some obvious effect,—on the sensations at least, if not on the functions,—has become so inveterate in this country, that even our *placebos* have, in the hands of our modern doctors, lost their original quality of harmlessness, and often please their very patients more by being made unpleasant!

12. To make every effort not merely to destroy the prevalent system of giving a vast quantity and variety of unnecessary and useless drugs, (to say the least of them,) but to encourage extreme simplicity in the prescription of medicines that seem to be requisite.

13. To endeavour to break through the routine habit, universally prevalent, of prescribing certain determinate remedies for certain determinate diseases or symptoms of diseases, merely because the prescriber has been taught to do so, and on no better grounds than conventional tradition.—*On Homœopathy, Allopathy, &c.*

## OBITUARY.

Recently, after a long and painful illness, at the age of 61, Dr. Flaubert, Chief Surgeon to the Hotel Dieu, of Rouen, Member of the Academy of Medicine, and one of the most eminent among the provincial practitioners of France.

On the 19th inst. at Gateshead, after a few days' illness, in the 69th year of his age, Isaac Ryall, Esq. Deputy-Inspector of Hospitals and Fleets.

On Friday, the 30th ult. at his residence in Upper Charlotte Street, Fitzroy Square,

in the 82d year of his age, Joseph Constantine Carpue, Esq. F.R.S.

On the 28th inst. at Croom's Hill, Greenwich, Samuel Kenning, Esq. M.D. late of the Ordnance Medical Department, aged 71.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *Jan.* 29.—Francis Ezekiel Barton, Norfolk.—George Ayton, Kenilworth.—Charles Pantin Slaytor, Woolpit, Suffolk.—Arthur Hewgill, Repton, Derby.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, Jan.* 24.

| Births. | | Deaths. | | *Aver. of 5 yrs.* | |
|---|---|---|---|---|---|
| Males.... | 635 | Males.... | 474 | Males.... | 493 |
| Females . | 570 | Females . | 434 | Females . | 474 |
| | 1205 | | 908 | | 967 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts*, 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 144 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 148 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .....(Pop. 374,759) | 172 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar.....(Pop. 393,247) | 168 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich (Pop. 479,469) | 276 |
| Total ..... | 908 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Winters; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 908 | 1080 | 967 |
| SPECIFIED CAUSES ..... | 902 | 1073 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 175 | 183 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 82 | 115 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 128 | 169 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 325 | 363 | 294 |
| 5. Heart and Blood-vessels ..... | 32 | 30 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 60 | 69 | 72 |
| 7. Diseases of the Kidneys, &c... | 10 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 4 | 12 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 10 | 7 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 2 | 2 | 2 |
| 11. Old Age..... | 49 | 90 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 25 | 27 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 5 | Convulsions .... | 37 |
| Measles ..... | 36 | | |
| Scarlatina ..... | 57 | Bronchitis ..... | 68 |
| Hooping-cough.. | 14 | Pneumonia..... | 81 |
| Typhus ..... | 35 | Phthisis .....132 | |
| | | Dis. of Lungs, &c. | 10 |
| Dropsy..... | 7 | Teething ..... | 7 |
| Sudden deaths .. | 11 | Dis. Stomach, &c. | 5 |
| | | Dis. of Liver, &c. | 7 |
| Hydrocephalus .. | 32 | | |
| Apoplexy..... | 20 | Childbirth ..... | 2 |
| Paralysis..... | 18 | Dis. of Uterus, &c. | 1 |

REMARKS.—The total number of deaths was 174 below the winter, and 60 below the annual average. The deaths from Zymotic diseases, with the exception of Measles and Hooping-cough, were also below the averages. The mortality from Measles has diminished (deaths 36), while that from Hooping-cough has considerably increased (deaths 57). The deaths from Typhus are also above the averages. In all the districts, the mortality was below the winter average.

## METEOROLOGICAL SUMMARY

*For the Week ending Saturday, Jan.* 24.

| | |
|---|---|
| Mean Height of Barometer ..... | 29·16 |
| ,, ,, Thermometer[a]..... | 48·9 |
| Self-registering do.[b] ..... | max. 57° min. 33° |
| ,, in the Thames water. — | 43·5 — 41·2 |

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 1·48: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was no less than 12·8° above that of the mean temperature of the month (36·1°). The extreme hebdomadal range in the self-registering thermometer was only 24°. The quantity of rain which fell during the week was the mean quantity for the *whole month* of January! It may be as well to remark here, that the mean temperature for the month was 41°; *i. e.* 5° above the average.

## NEW MEDICAL BOOKS.

Mr. Tamplin's Lectures on the Nature and Treatment of Deformities.—Chelius's Surgery, by Mr. South, Vol. 1.—Dr. Walshe on the Nature and Treatment of Cancer.—Mr. Sampson on Homœopathy; its Principles, Theory, and Practice.—Mr. Braithwaite's Retrospect of Medicine, Vol. 12, July—Dec. 1845.—Dr. Ranking's Half-Yearly Abstract of the Medical Sciences, Vol. 2, July—Dec. 1845.

## NOTICES TO CORRESPONDENTS.

Dr. Shearman's communication shall have early insertion.

We will endeavour, if possible, to find room for Dr. J. H. Davis's letter in our next number.

Mr. Solly's lecture, and the papers of Mr. Erichsen, Dr. Percy, Dr. Hughes, and Dr. Dick, will appear next week.

We are obliged to Mr. Erasmus Wilson for his paper on the Trichocephalus.

Dr. Glover's (Newcastle) case has been received, and will be inserted.

ERRATUM.—In a note, attached to the Report of the South London Society, at p. 218 of our last number, Dr. Chevers is represented to have said that he had found a calculus as large as "a cocoa-nut" in the ductus communis choledochus. For "*cocoa-nut*," read "*cob-nut*." This case was alluded to by Dr. Chevers, as an opinion had been advanced by one of the members, that biliary calculi of large size in all probability escape into the bowel by ulceration, and not by passing through the common duct.

## Lectures.

### CLINICAL LECTURE
ON
### A CASE OF COMPOUND DISLOCATION OF THE ASTRAGALUS,
*Delivered at St. Thomas's Hospital,*

By Samuel Solly, F.R.S.
Senior Assistant-Surgeon.

Gentlemen,—One of the most interesting and practically instructive cases which we have had this season is a case of compound dislocation of the astragalus.

This form of accident rarely occurs; I do not remember having ever seen one exactly like it.

The consideration of it involves many points of great practical interest, which I will endeavour to bring forward seriatim, after I have read to you a general outline of the case, which is very clearly reported by Mr. Hartnoll.

*Case of Compound Dislocation of the Astragalus.*

John Lambert, æt. 42, labourer; stout and muscular conformation; bilious temperament, and sallow complexion; was admitted Nov. 4th, 1845, into George's Ward, under Mr. Green, with a compound dislocation inwards of the astragalus from the os calcis. He is married, and has several children: has been a drinking man nearly all his life. Has had a cough for some few weeks, but cannot give any particular reason for its occurrence. In March last was attacked with rheumatic fever, and became on that account an in-patient of Guy's Hospital; was ill altogether sixteen weeks; was not bled.

This important fact regarding the intemperate habits of this man was not elicited until after our consultation. For though we questioned him very closely on this point he positively assured us that he never took more than a pint of beer a day. He, indeed, stated that his general health was remarkably good, also concealing the attack of rheumatism which occurred ten months previously. There was a calmness of manner and clear straightforward way of expressing himself which gave an authority to his history of himself, which we now find it did not deserve; these circumstances may appear too trivial to dwell upon in a lecture, but they are of such importance that I trust you will always consider them in cases of compound fracture.

The injury was caused by a heavy iron girder, of the weight of ten tons, falling upon the limb, and crushing it against another similar girder; thus nipping the part as it were between the two blades of a pair of scissors.

On examination the accident appeared of the nature of a compound dislocation of the tibia inwards, with fracture of the fibula. The foot was everted; the outer edge of the sole inclined upwards, the inner edge downwards. On the inner side of the foot there was a lacerated wound of the integuments, extending from below the internal malleolus, about three inches in length, forwards on to the instep. The integuments were contused and lacerated to a great degree on the outer side, the wound extending from above the outer malleolus across the foot to the metacarpal bone of the second toe, a large flap of skin having been torn up, and a deep chasm exposed beneath: on both sides the tendons were exposed. The anterior and posterior tibial arteries were not injured, and their pulsation could be distinctly felt, though anteriorly only a narrow bridle of skin, about an inch and a half in width, was left between the two wounds, connecting the skin of the leg with that of the foot.

This was accomplished without any apparent difficulty, though it required great care to avoid the division of either the anterior or posterior tibial arteries. The inner malleolus, though not bare, projected through the wound on the inner side. On the outer side, the fibula, which was fractured about two inches above the external malleolus, was completely exposed. Reduction was attempted by Mr. Solly, who visited the man a short time after admission, but with no avail. On consultation between Mr. South, Mr. Mackmurdo, Mr. Solly, and Mr. Travers, it was determined that an attempt should be made to save the limb, to saw off the extremity of the tibia, and to reduce the dislocation.

For this purpose the man was placed upon the table; the wound on the inner side dilated, and the internal malleolus laid bare. The tendon of the flexor digitorum communis was drawn aside by a retractor; while that of the tibialis posticus being so much on the stretch as not to allow of retraction, was divided. At this stage it was discovered that the prominent projection of bone on the inner side was a portion of the astragalus, in natural connexion with the tibia, but separated from the os calcis and navicular bone. It was therefore determined to remove this bone, which was done, and the foot was then easily brought into its natural position. The integuments were now brought together by sutures, and strips of adhesive plaister; the patient sent to bed, and the limb confined in a swing box.

Nov. 4th, 10 P.M.—Pulse quick; skin hot. To have—

Tinct. Opii, ℥xl.

Nov. 5th.—Has slept tolerably well; wound easy; tongue white; pulse 96; cough troublesome. Ordered—

Mist. Effervescens c. Tr. Scillæ; Gin, ʒiv. The chest to be painted every night with tincture of iodine. Milk diet; beef-tea; opiate at night.

Nov. 6th.—Pulse 96, and rather weak; tongue whitish; feels very drowsy; bowels not open.

The opium to be omitted at night, and to have brandy ʒij. instead.

Mr. Solly removed the sutures and plaister from the wound, and applied a poultice.

Nov. 7th.—Pulse 88; tongue clean and dry; bowels not open. Ordered—

Pulv. Rhæi c. Cal. gr. x. nocte. Mutton chop, and porter two pints.

Nov. 8th.—Feels very low and weak; has no appetite; pulse 90, feeble; tongue morbidly clean, tip and edges bright scarlet; bowels freely open. To have the following draught (ordered by Mr. Green)—

℞ Mist. Camph. ʒjss.; Ammon. Carb. gr. v.; Tinct. Opii, ℥x. 6tis horis.

Nov. 9th.—Pulse 86, feeble; tongue very dry and rugous, of the same scarlet hue; occasional rigors. Ordered—

Port wine, ʒiv. Eggs.

The wound on the inner side is suppurating, but on the outer side there is an extensive slough, of the size of the palm of the hand.

To have the solution of chloride of soda applied to the outer wound.

Nov. 10th.—Has been very restless during the night; pulse 90, feeble; tongue the same. Ordered—

Brandy, ʒiv. in addition to the wine, and an opiate at night.

Nov. 11th.—Pulse 90; tongue the same; lips parched; has been very restless during the night; bowels open. To have—

℞ Opii, ℥xl. nocte: to be repeated if restless.

A dull red inflammation of a very low character extends around the wound, and several dull red streaks can be traced along the course of the absorbents over the thigh.

Nov. 12th.—Slept better during the night; pulse the same; tongue the same; skin dry; has pain in his limbs; the wrist of the right arm considerably swollen, red, and painful; urine rather high coloured.

Pergat.

Nov. 13th.—Pulse 100, quick, and feeble; tongue very dry, tremulous, and bright scarlet; bowels open twice, relaxed; hectic flush on the cheek; rheumatism much the same.

Pergat.

Nov. 14th.—Pulse 100, feeble; tongue not so red, and a little moister; has been very restless during the night; is unable to move his right arm.

Pergat.

Nov. 15th.—Skin moister; tongue not so dry, but still red; pulse 96, and very feeble.

Pergat.

Nov. 16th.—Tongue moister, and not so tremulous; in other respects much the same.

To have a pint of porter, and 2 oz. of wine in addition.

The quantity of stimulus he now takes, is, porter, 3 pints; brandy, ʒiv.; wine, ʒvj.; besides eggs, beef-tea, and chops.

Nov. 17th.—Continues much the same. The wound is very sloughy, especially on the outer side. Mr. Solly removed the lower end of the fibula, which was quite dead, and likewise some sloughy portions of the peronei muscles.

Pergat.

Nov. 18th.—Tongue still morbidly red, though moist; pulse weak. Quantity of stimulus increased to porter, 4 pints; brandy, ʒvj.; wine, ʒviij.

Nov. 19th.—Bowels have been opened once: otherwise the same.

Pergat.

Nov. 20th.—No improvement.

Pergat.

Nov. 21st.—Skin is moister; tongue moister and not tremulous, though still red at the tip and edges; pulse 96, weak; both wounds granulating, looking healthy, but with no excessive discharge.

Nov. 22d.—Mr. Green saw him to-day, and thought him in a better state, and likely now to bear the operation of having his leg removed, which he proposed, but the man would not consent. In the course of the evening, however, he did consent, and Mr. Solly, about half-past nine P. M., amputated the leg below the knee, performing the circular operation. He bore the operation well, but lost a considerable quantity of blood, as the tourniquet was shifted by the struggles of the patient.

11th.—P. M. feels comfortable. To have—

℞ Opii, ʒj. statim, and to be repeated if necessary.

Nov. 23d.—Has dosed at intervals during the night; pulse quick; skin rather dry; tongue more natural in appearance, though a little dry.

To have an opiate at night.

Nov. 24th—Tongue cleaner and moister, has lost its morbid redness; pulse 100; bowels confined.

Nov. 25th.—Bowels confined; ordered,

Pulv. Rhæi, gr. vi.; Tr. Sennæ co. ℥j. ex aq. menthæ, statim et repet. si opus sit.

Nov. 26th.—His bowels have been relieved twice; tongue is clean and moist; stump dressed; discharge healthy.

Pergat.

Nov. 27th.—Has slept but little during the night, and mutters in his sleep; tongue rather dry. It was thought to be the opium that caused him to lie so watchful. He was therefore ordered instead—

℞ Hyoscyami, ℥j. ex Mist. Camph. nocte, et repet. si opus sit.—Pergat.

Nov. 28th.—The hyoscyamus has not had the desired effect of composing him. He had the dose repeated during the night. Tongue dry, and again becoming preternaturally red; perspires very freely; stump to be poulticed. To have—

Morph. Mur. gr. ¼ nocte.

Nov. 29th.—Perspiration profuse; the integument of the right side and hip is considerably swollen, and pits upon pressure.

Pergat.

Nov. 30th.—Swelling extending upwards towards the axilla; pulse weak; tongue rather tremulous; bowels have been relieved once; quantity of wine increased to ℥x. His cough being troublesome, Mr. Solly ordered him the following—

℞ Decoct. Senegæ, ℥ij.; Ammon Carb. gr. v.
Tr. Scillæ, ℥ss. in 6tis horis.

Dec. 1st.—Much the same.

Dec. 2d.—The swelling extends now down over the right thigh; his tongue is red and tremulous, and can scarcely be protruded from the mouth.

Dec. 3d.—Mr. Solly made an opening into the swelling near the hip, and gave exit to about three pints of very offensive unhealthy looking pus. The stump looks tolerably healthy, and there is a free discharge. Quantity of wine increased to ℥xij.

Dec. 4th.—Tongue a little moister; pulse 100, very weak; skin dry, though at times bathed in a profuse perspiration.

Pergat.

Dec. 5th.—Is in no pain; the right thigh is swollen to twice its natural size, and pits upon pressure; the swelling has likewise extended round to the opposite side and thigh; the integument has a brawny feel and yields under the pressure of the finger like dough.

Pergat.

Dec. 6th.—Feels easy, and says his cough is not so troublesome.

Dec. 8th.—Integuments over the left buttock look dark, and in a sloughing condition. The poor fellow sunk in an exhausted state on the 12th, without any change in his symptoms. No post-mortem examination was allowed.

On dissecting the foot we found that the edges of the astragalus, where the bone articulates with the navicular, had been broken off, and left attached by ligaments with that bone; in the same manner the posterior lip of the bone which had been broken off was left attached to the posterior surface of the tibia. The inner lip of the astragalus, that portion which overlaps the tuberosity of the os calcis, was also broken off.

These fractures of the bone are interesting in a physiological point of view, as shewing the greater resistance of the ligament than the osseous tissue.

The first practical point worthy of our attention is the form of dislocation. It was not what it appeared to be; namely, a compound dislocation of the ankle-joint, which though not a common accident is not so rare as this dislocation of the astragalus.

I do not find any case exactly similar to it, either in Sir A. Cooper's works, or in Mr. Turner's Treatise on Dislocations of the Astragalus.* This treatise, gentlemen, is well worthy of your perusal; it reflects great credit on any surgeon who is so actively engaged in private practice as Mr. Turner is, to take so much pains to collect statistical information on this important subject as he has done. In regard to the rarity of the injury, I refer more particularly to the displacement of the astragalus from the os calcis, and the retention of it to the tibia. The astragalus is not unfrequently dislocated, but then it is generally separated from the tibia.

Sir A. Cooper mentions one case somewhat similar, the particulars of which were given to him by Mr. South.

The patient, aged 45, an Irish labourer, of intemperate habits: accident occasioned by a blow on the heel from the falling of a piece of stone.

The parts were in the following state: a wound extending from opposite the middle of the base of the tibia round the upper part of the instep, to the external malleolus, which exposed the articulating surface of the astragalus with the navicular bone on the fore part, as well as that with the os calcis on the outside, from both of which bones it was displaced; its connection with the tibia and fibula, however, was undisturbed. The reduction was effected by extending the foot, and rotating it outwards; the wound

* Anatomico-Chirurgical Observations on Dislocations. By Thomas Turner. 1843.

was brought together with straps of adhesive plaster. This patient recovered, and he left the hospital able to walk tolerably well, having been in the hospital about five months and a half. But in this case it is to be remembered that there were no fractures, and only one wound.

A reviewer of Mr. Turner's paper in the British and Foreign Quarterly Review, bears his testimony to the rarity of this form of accident: he says, "we believe there are very few cases of the kind on record, and we ourselves are only acquainted with another," (referring to that of Sir A. Cooper as the first), which is recorded by Dr. Macdonald, Dublin Journal of Medical Science, vol. xiv. p. 235.

This case is entitled, simple and complete dislocation of the astragalus from the os calcis and navicular bone, upon the dorsum of the latter, without disturbance of the relations between the tibia, fibula, and astragalus, and without fracture of any of these bones: the case of Richard Carmichael, the celebrated Dublin surgeon.

The accident was occasioned by the weight of the body being received by the anterior portion of the foot, as it struck the ground; his horse falling, but without his losing his seat. The following was the deformity observed: the toes were turned outwards, the inner edge of the foot forming an angle of about 30°, with its natural direction; the sole was slightly turned outwards, and the outer edge slightly elevated; the concavity of the tendo-achillis posteriorly was manifestly increased, and the heel lengthened: on grasping the soft parts between the tendo-achillis and tibia, we found the distance between these parts much greater than in the other foot. The absence of the hard projection which would have been formed by the upper articulating surface of the astragalus, had it passed backwards with the other tarsal bones, was evident; the malleoli were perfectly defined; below and before the inner there was a hard prominence, over which the skin was tense, formed by the inner surface of the astragulus, brought into relief by the dislocation and the slight cohesion of the foot. Much the most striking part of the deformity consisted in a prominence on the dorsum of the foot. Immediately in front of the tibia it presented a flat surface, broad enough to receive the finger, and from which there was an abrupt descent upon the anterior part of the tarsus. Over this projection caused by the head of the astragalus thrown on the upper surface of the scaphoid and cuneiform bones, the integuments were so tense that it was evident a very small additional force would have driven it through the skin. In this last particular there was a striking difference between this case and Lambert's, where there was no tension of the skin over the astragalus; the lacerated wounds on both sides preventing its occurrence.

They attempted to reduce this accident without the pullies, but failing, used this power, and succeeded. Mr. Carmichael stated that the use of them was much less painful than the jerks of unassisted muscular force.

"With respect to the rareness of this dislocation," says Dr. Macdonell, "none of my surgical friends have met with another case, and, after a diligent search, I cannot say positively that I have found a single case of the same accident. Sir A. Cooper, Boyer, Chelius, and Gibson, have not recorded it."

The following interesting case, which was under Mr. Shaw and Mr. Arnott, so much resembles, in many particulars, that of Lambert, that I shall abbreviate it*, leaving you to refer to the excellent report itself, if you wish for further particulars. Frederick Moore, æt. 22, a brewer's drayman, was received into the Middlesex Hospital, December 26th, 1836, with a compound dislocation of the astragalus of the right foot. He fell into a cellar, a height of about three yards; the right foot was twisted under him.

There was an open wound, about three inches and a half in length, on the inside of the foot, a little under the inner malleolus, and extending obliquely from the upper part of the instep, in the direction of the heel. The anterior articulating surface of the head of the astragalus projected nearly an inch through the wound, but it still retained its natural connections with the tibia and fibula; but the capsular ligament of the ankle-joint was lacerated horizontally. The tendon of the tibialis posticus was dislocated and thrown backwards, as in the case at Guy's, to which I shall again refer, while that of the flexor communis was dislocated backwards. The fibula was fractured close to the ankle-joint.

The most careful and judicious efforts possible, without the use of the pullies, were made at reduction, but without success. It was then determined, after consultation, to remove the astragalus. This was found so difficult that they were obliged to use the strong bone scissors and the chisel and mallet, and cut it into pieces before they could detach it. The leg was laid on an outside splint, and the knee bent.

He ultimately recovered, but after a long and dangerous illness, cough, erysipelas, absorbent inflammation, collection of pus over the trochanter, &c.

July the 11th he left the hospital, able to walk tolerably well; that is, rather more

* Med. Gaz. vol. xx. p. 588.

than six months from the time of admission. Mr. Turner excludes this form of dislocation from his list, limiting the term dislocation of the astragalus to that separation of this bone from its natural attachments in which we find that *all* the articular surfaces must in some degree be displaced. If the astragalus be separated from the bones of the leg, and still retain its connection with the bones of the tarsus, the accident is a luxation of the ankle-joint. If the astragalus retain its natural attachments with the tibia and fibula, but happen to be torn from the os navicularis or the os calcis, or both, it would not be a dislocation of the astragalus, but a diastasis, or disjunction of one or both of the bones from the astragalus. I think that there would be an advantage in thus limiting the term dislocation of the astragalus to the more or less displacement of *all* the articular surfaces; if it were generally adopted, it would be found inconvenient. It is true that we do not thus employ the term in reference to other bones; for instance, we speak of dislocation of the humerus at the shoulder-joint, though its articular surfaces at the elbow-joint are in perfect apposition, and so on.

Thus I think it is strictly correct to describe this accident as a dislocation of the astragalus from the os calcis and navicular bone; though its connections with the tibia remain undisturbed; but then we refer to a particular joint.

Considering the rarity of this accident, it is curious, in connection with this case, that a very similar accident should have been lately admitted into Guy's. In this instance the accident was a simple dislocation of the astragalus from the os calcis and navicular bone; the astragalus retaining its connection with the tibia and fibula, without fracture of these bones, but with fracture of the cuboid bone. All attempts at reduction were unavailing; constitutional symptoms of serious injury and irritation of the nervous system, threatening life, supervened. Amputation was performed, and, in addition to the dislocation of the bones, the tendon of the tibialis posticus was found thrown out of its natural groove on to the front of the tibia, and the flexor communis digitorum from the same groove into that of the flexor longus pollicis. The tibia and astragalus were, in fact, held by these tendons so firmly, that it would have been impossible to have reduced the dislocation without dividing them. The posterior tibial nerve was violently stretched by the projection of the tibia; and this accounts for the derangement of the nervous system. The patient did not survive the injury and operation many days.

I have dwelt very fully on the rarity of the accident, in the hope that you may remember during the rest of your professional career that such an accident does sometimes occur, and that if you should be called suddenly to so serious an injury of the foot and ankle as to require you to deliberate on the propriety of amputating or not, you will assist your judgment with the recollection of this case and its results.

This form of dislocation was new to me, and in weighing the arguments *pro* and *con* amputation, I did not put this into the balance. I candidly confess that if we had, I think it would have just turned it in favour of amputation of the limb; for the dissecting out of the astragalus from the socket of the tibia is certainly a more serious operation than sawing off the end of the tibia. It is true that the astragalus has been frequently removed in compound dislocations, and the patient recovered; but I think, on looking back to all the circumstances of this case, that it added so much to the already extensive injury of the soft parts, that if a similar case were to come before me, I should not be tempted to try by such means to save the limb.

I would, indeed, advise you, in any analogous case, where you might consider it necessary to remove the astragalus, or saw off the end of the tibia, in order to return the bones to their place, never to make a fresh incision to effect it, if you have already an extensive wound in another direction. If you cannot remove the astragalus without so doing, then to remove the whole leg in preference. In the case we have just been considering, there was already an extensive lacerated wound on the outside of the foot; but this wound was not in a direction to admit of either the removal of the base of the tibia through it, or the astragalus; and though there was a wound on the inner side, still this wound did not communicate with either of the above-mentioned bones. In order to extract the astragalus, it was necessary to carry this wound down to them, which most undoubtedly added much to the previous injury, and danger of constitutional irritation.

I have remarked, that in those cases in which the astragalus has been successfully removed, it has been removed rather through an original wound, or a dilatation of the original one, or in cases of simple dislocation, where of course only one wound need be made for the purpose.

When I first saw this man, and upon carefully examining the limb, I was strongly impressed with the idea that amputation of it was necessary to save his life; and my principal reasons for thinking so was that in addition to the very extensive wound of the skin and sott parts on the outside of the foot, the severe injury to the ankle joint, and free exposure of its articular surface in that

direction, that there was a long lacerated wound of the integuments also on the inner side, that this wound did not communicate with the joint. Nevertheless, I felt that it was a very difficult case to decide upon: for the loss of a limb, to a labouring man especially, is too serious a matter to determine on without great consideration and deliberation. Under these circumstances I was glad to obtain the advice of my colleagues, Mr. South, Mr. Mackmurdo, and Mr. Travers, who were then in the hospital: they all considered that I ought to try and save his limb; and as I did not feel sufficient confidence that my first impression was the correct one, I determined to act in accordance with their advice. The next point to be determined was how to reduce the dislocation. I had tried ordinary extension, but could not make the least impression. Mr. South advised my sawing off the end of the tibia, as recommended and performed by Sir Astley Cooper and Mr. Henry Cline. I therefore laid bare the inner malleolus, and cut through the deltoid ligament; and it was not until I had done so that I found that the astragalus was still attached to the end of the tibia, and dislocated from the os calcis. Under these circumstances I removed this bone, which was already detached from the os calcis and navicular bone, and after this the tibia was easily replaced. The operation was very painful, though it did not occupy any length of time.

It will be found that in general the results of *complete extirpation* of the astragalus have certainly been encouraging, notwithstanding the serious nature of the accident which demands this formidable operation. Mr. Turner states that "in 13 cases out of 18, a very useful limb remained: in one only was there true ankylosis; and death occurred in four cases. In no simple case was there a fatal result. It is, therefore, to be presumed, that death happened rather from the conjoint injuries which the soft parts sustained by the violence which produced the compound and complicated luxation of the bone, or by the force used in attempts at reduction, or both united, than from the operation itself; and there is a weighty argument in support of this opinion, in the fact, that the cause of death in the four examples was diffuse cellular inflammation, extensive suppuration, sloughing, &c. The latter being the sequel of the former, and as affording additional evidence of this truth, it may be mentioned that in three out of the four cases the accident was *compound* and *uncomplicated*; therefore cases where there there was no division of the effects of force, but a direct concentration of it on the joints and surrounding textures. That the degree of injury which the soft circumjacent tissues receive, has a material effect in influencing the result, is further demonstrated by the fact, that dislocations in the anterior and posterior aspects of the foot do much better than lateral luxations, as they are not usually accompanied with so much laceration of the ligaments, tendons, fasciæ and skin, in the former as in the latter localities."

Mr. Turner says, "In partial cases, whether simple, or simple and complicated, should attempts at reduction fail, there must be no operative interference. In partial and compound, or compound and complicated (reduction failing), excision, if practicable, of the protruded portion of the bone should be performed.

"It is, however, to be remembered, that this practice does not apply to *partial* and *simple* dislocation of the astragalus in *any* direction; for the justifiability of operation in partial luxation, when there is no external wound having a direct communication with the displaced bone, is very questionable. The practical proceeding in complete and simple, or simple and complicated dislocation, will be determined by the position of the bone: if its protrusion be direct, in reference to its axis, and cannot be reduced by moderate efforts, the case ought to be left to nature, because, although the chances are against its remaining passive, it will be well to wait the event; and should the skin inflame and other matters predicate the tendency to ulcerate through, it will be better to save the patient this source of irritation, by an incision over the site of the astragalus, and leave the extrication of the bone to the efforts of nature, or at all events until it is so loose as to be easily extracted."

The following cases from Sir A. Cooper demonstrate that persons do recover from injuries nearly as serious as those of Lambert's, without amputation of the leg."

Case II. p. 259.—"The tibia and a part of the astragalus protruded at the inner ankle. I immediately returned the parts into their natural situation; five weeks afterwards a portion of the astragalus separated; and another piece a week afterwards, which when joined formed the ball of that bone. Recovered. Good limb.

"III. Tibia thrown inwards, astragalus shattered into a number of pieces, loose and unconnected portions removed; recovered: well at the end of nine months. For his years he has an useful limb.

P. 271, IX.—"Compound dislocation of the tibia outwards; the tibia and fibula have penetrated through the integuments at the outer ankle, and were lying on the outside of the foot; the articulatory surface of the astragalus had penetrated through the integuments of the inner ankle, shewing, on a

view of the case, the foot nearly reversed; the bones were reduced without much difficulty, and the man did well. Antiphlogistic plan was strictly pursued. Lot. Plumbi."

This case resembles Lambert's in the double wound.

Sir A. Cooper says:—"I have known no case of death when the extremities of the bones have been sawn off, although I shall have occasion to mention some in which the cases terminated fatally when this was not done."

But these observations lead me to another important practical point involved in this case, but on which time wil not allow me to attempt to treat in this lecture. It is the question of primary or secondary amputation as a general rule in cases of compound fracture. In this individual case I must say that I think the man would have had a much better chance of recovery if the leg had been amputated in the first instance instead of removing the astragalus, and waiting. My reason for thinking so is the power of reparation which was exhibited in the wounds of the foot, the way in which the sloughs were thrown off, and the healthy granulations that sprung up, and considering the amount of injury, the slight constitutional irritation which arose; and if all this went on favourably with such extensive injuries, can we doubt, with a simple amputation of the leg, that there would not have been less suppuration and less constitutional irritation? Indeed, one reason for considering the amputation necessary after all was, that he must sink under the enormous amount of suppuration which was going on, and that he had not sufficient strength to repair the injury, and not from threatening of life by constitutional irritation. I cannot lay the flattering unction to my soul, and believe that there was any organic disease existing previous to the accident, though his constitution was certainly impaired by intemperate habits, which materially influenced the result. It is true that he had a troublesome cough when he came in, but it did not arise from disease of the lungs, and I have often removed worse in cases of compound and other fractures without difficulty. The heart's action was normal throughout; and as for his stomach and digestive organs in general, they never failed him from first to last.

It would have added very much to the illustrative character of this case if we could have had a post-mortem examination, but this was obstinately refused. In the absence of this evidence, I must be contented to give you my opinion of his pathological condition. The details of its daily progress have described the signs of absorbent inflammation, and the secondary purulent deposit which followed in both femoral and gluteal regions. From the state of his respiratory system I suspect that shortly before his death the same was deposited either in the lungs or on the pleura, as you have lately seen in another fatal case of compound fracture, which we have had the opportunity of examining.

But as our time is expired, I will conclude by observing, that Colles, late of Dublin, an excellent practical surgeon, is not in favour of amputation for compound dislocation of the ankle, and he thus expresses himself in his lectures:—"The man to whom I was pupil was very fond of amputation for every kind of compound fracture, and he operated as well and as dexterously as any man I ever saw, yet I never saw a patient on whom he operated for this kind of case, that did not die in consequence—every one of them—they got sickness of the stomach, which never left them; a tumid abdomen, &c. All the experience I have had tends to show the ill tendency of early amputation in compound fractures. If you must amputate wait at least until the symptomatic fever has subsided. If there is a necessity to amputate after hectic fever has set in, which, as I have already said, may occur, the hectic will immediately subside after the operation, provided the fever be not owing more to constitutional than local causes:—a man, who was in perfect health the moment before he met with an accident, and from which he got a severe shock, is not a fit subject for an immediate operation."

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### IRRITABLE ULCER.

THERE is only one description of ulcer I ever met with that really deserves the name (of irritable), and which is not described in books; it is this. It generally comes on the outer side of the ankle, upon or a little above the external malleolus; it is a small ulcer, sometimes not larger than the point of the finger; it never goes entirely through the skin; it has no edges, nor is there any inflammation about it; it discharges good matter, and has nothing very grave-looking connected with it; it is excessively painful, however, and you examine it all over in vain to say why it is so. You really can see nothing to account for it, in its appearance at least. Now if you have soft mild applications, such as poultices, laid on it, you will set your patient mad with the pain. You must treat it in directly the reverse way. Rub over its surface with a pipe of lunar caustic, and dress it with a solution of the same, under which the pain will go, and the ulcer heal.—*Prof. Colles' Lectures.*

A COURSE OF

# LECTURES ON DENTAL PHYSIOLOGY AND SURGERY,

*Delivered at the Middlesex Hospital School,*

By John Tomes, Esq.
Surgeon-Dentist to the Hospital.

## Lecture V.

### *On the development of the dental tissues.*

Having traced the formation of the teeth as organs, it now remains for us to investigate the manner in which the several tissues comprising these organs are developed. On entering this investigation it will be necessary to bear in mind, first, that all textures are formed from cells, and that the first act of development consists in the formation of these cells, and the second in the formation of other cells from those already existing. This last is beautifully illustrated in the development of the dental organs. Thus the papillæ springing up from the primary dental groove are composed of nucleated cells, cells capable of producing, by the growth of the contained nuclei, other cells similar in character and in purpose to those from which they have been formed. The dental papillæ increase in size by the formation of new cells in the foregoing manner. In a short time the papillæ are contained in follicles; still, although much increased in size, they are composed of nucleated cells connected by a homogeneous transparent thick fluid, a blastema or plasma. In the base of the papilla, when enclosed in a follicle, blood-vessels are formed; they, however, are not immediately concerned in the cellular development, but probably, by transudation through their coats, furnish the homogeneous plasma. In process of time, the precise period varying in the different teeth, the follicles become sacs.

The papilla, which is now designated the pulp, assumes the shape of the future teeth, and it commences to fulfil the ultimate purpose of its existence, in the formation of dentine. Previous to the development of tooth-substance the inner surface of the sac becomes separated from the surface of the pulp, the intervening space being occupied by a soft gelatinous granular matter. This is the formative pulp for the development of the enamel. It is composed of characteristic nucleated cells suspended in a plasma, each being derived from the sac. At this stage of dental formation we have a closed sac containing two formative pulps, one for the development of the dentine, the other for the formation of the enamel; the former in the shape of the crown of the future tooth, the latter forming a cap over the dentine pulp. At a later period we have a matrix for the formation of the cementum.

The dentine pulp, from its earliest appearance to the time of its transition into dentine, is composed of a series of nucleated cells, united and supported by plasma, is supplied with vessels, and, during the greater part of its existence, with nerves. The cells, during the growth of the pulp, have no definite arrangement; when, however, dentine is about to be formed, they arrange themselves into lines near the surface of the pulp, first at its apex, afterwards at the sides.

Fig. 10. Fig. 11.

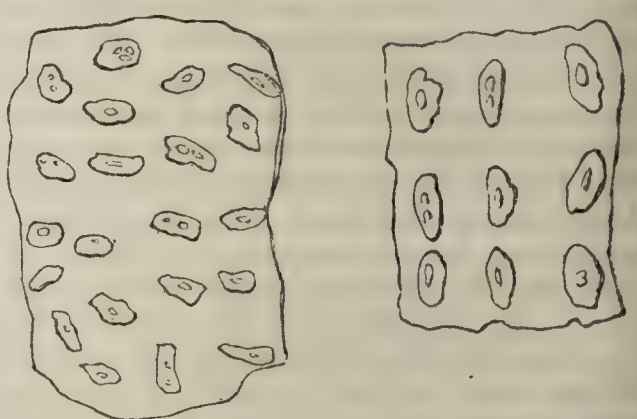

Fig. 10.—Pulp for the development of dentine, with nucleated cells scattered through its substance.

Fig. 11.—Dentine pulp, with the cells in lines.

The direction of these lines of cells is vertical to the surface of the pulp, similar to the direction of the dentinal tube of a developed tooth. Those cells on and near the surface of the pulp are the larger, the relative size decreasing the further they are removed from the surface. The lesser cells, however, increase to an equal size to the larger ones, when the time for their calcification arrives. Intermediate and connecting laterally the lines of cells is a subgranular gelatinous tissue, corresponding in position to that described as the plasma, with which it is identical, but is now developed further; each cell after falling into line divides into two or more in its length, and each division elongates (Fig. 12). A transparent central nucleus or space is seen in each cell, which lengthens with the cell. The cells by their increased length become placed end to end, and ultimately unite; and the elongated central space of each individual, by a further development, joins and opens into those of the super-imposed cells; thus forming a central tube common to the linearly united cells. At this period of development the earthy matter is received into the cellular or rather tubular and inter-tubular tissue, whereby the gelatinous matrix having assumed the required form is converted into tubular and inter-tubular tissue; in other words, into dentine. In some

nstances the linearly arranged cells have two or even three central spaces, but these in the progress of development become joined in one.

Fig. 12. Fig. 13.

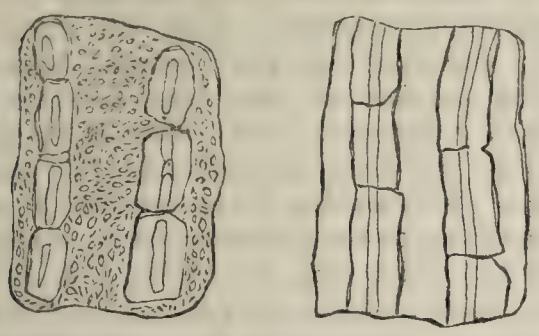

Fig. 12.—Dentine pulp, with the cells; placed end to end, and the nuclei elongated. Granular intercellular tissue.

Fig. 13.—Dentine pulp, with the cells united, and the nuclei developed into tubes.

Covering the pulp is a transparent membrane closely united to the external cells. This membrane, which forms the exterior of the dentine, is the first to undergo calcification. Upon the external surface of this membrane are developed the hexagonal pits for the reception of the ends of the enamel fibres. The progressive stages of development are very readily observed in the molar teeth of the hog, or in a kitten, at birth. In each of these animals I have examined the formative pulps, and from these examinations I have given this descriptlon, and have made my illustrative diagrams.

Calcification begins in the surface of the pulp, commencing at the apex or apices, and gradually extends down the sides and towards the centre. As the more external and larger cells become hardened the inner ones increase in size, assume the linear arrangement, and they in their turn become converted, by the addition of the salts of lime, into dentine, till at last the great bulk of the pulp is transformed, leaving only a comparatively small portion, with the nerves and blood-vessels, occupying the centre of the tooth.

In the progressive development of dentine from without inwards, two of the more external unite with one of the more internal lines of cells. The two central canals also unite and form one. By the frequent repetition of this process of union between the contiguous cellular lines, as they proceed inwards and towards the centre of the pulp, while the number of tubes gradually diminish, the branches of the dentine tubes are formed (Fig. 14). The structure composing the walls of the cells prior to the addition of the phosphate of lime, is, as far as has at present been seen, homogeneous; further investigation will, however, probably shew it to be minutely granular, and similar to the ultimate structure of the intercellular tissue of bone.

Fig. 14.

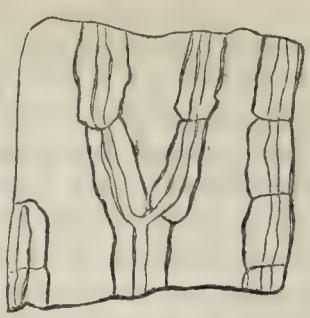

Fig. 14.—Two branch lines of cells uniting to form one trunk.

The development of the dentine or ivory has been investigated by Mr. Nasmyth, who gives the following account. "On examining the internal structure of the pulp generally, the number of minute cells presenting themselves is very remarkable; they seem, indeed, to constitute the principal portion of its bulk. These vesicles vary in size from the smallest perceptible microscopic appearance, probably the ten-thousandth of an inch in diameter, to one-eighth of an inch, and are evidently disposed in different layers throughout the body of the pulp."*

At another place, he says, "The formative surface of the pulp displays a regular cellular arrangement which I have denominated reticular, and which may be described as resembling a series of skeletons of desiccated curves.†"

When speaking of the formation of the ivory from the cells, Mr. Nasmyth says, "At an early stage of dental development the reticulated or cellular appearance of the pulp is particularly beautiful.

"When merely a thin layer of ossific matter has been deposited on its surface it may with great facility be drawn out entire, together with the former, laid in a glass, compressed, and then examined with the high powers of the microscope. The different layers of cells may be seen, and the transition into ivory may be observed."‡

From these extracts it will be seen that Mr. Nasmyth had upon this subject a clear idea, to which he gave distinct expression: first, that the pulp is composed of cells, and secondly, that the dentine or ivory is formed of these cells by the imbibition of earthy matter. A few months subsequent to the appearance of Mr. Nasmyth's paper, Mr. Owen wrote a paper on the development of the teeth, in which he advanced views in the main similar to those originated by Mr. Nasmyth. Mr. Owen, however, in his work "Odontography," gives a more dis-

* Memoir on the development and organization of the dental tissues, by Alex. Nasmyth, August 1836, page 39.

† Page 42.

‡ Page 46.

tinct account, and goes much further into the subject of the development of the dental tissues, than does Mr. Nasmyth in his published memoir.

Mr. Owen gives the following account of the formation of dentine. The pulp is described as being composed of nucleated cells suspended and united by a sub-granular plasma. The cells are more numerous near the surface of the pulp, where they are arranged in lines vertical to its external surface. At or near the surface the nucleus of each cell divides in two in its length, thus forming two cells; each of the so-formed cells has a nucleus of its own. These cells become again divided, but in the second instance the division is transverse. Thus, within a parent or primary cell, four lesser contained cells are formed by the division of its nucleus. The primary cells may, however, give origin to a far greater number of secondary cells than four. The primary cells being placed end to end become confluent, as do the secondary cells. The nuclei of the secondary cells also increase in length, and join those of the cells situated at either end in the same line.

Neither the primary or secondary cells are, however, arranged in a perfectly straight line, but in their union describe slight curves; the primary corresponding with the primary, and the secondary with the secondary curves of the dentitial tube. When the pulp cells have adopted the linear position, become confluent, and the nuclei arranged in continuous lines, they receive the calcareous salts, and are thus converted into the tubular element of dentine. The nuclei of the secondary cells are described as receiving at the time of the calcification of the cells a subgranular matter, rendering them opaque. With the imbibition of the earthy salts the confluence of the cells becomes perfect, and the filled nuclei become so united as to form continuous filled tubes. At the same time the intercellular (not intertubular) substance receives the hardening salts, and thus the pulp becomes perfect dentine. The description of which I have endeavoured to give a slight outline is in itself very complete. Those who would become acquainted with it in detail, I must refer to Mr. Owen's work. For myself I have been enabled to confirm some of the opinions advanced. I have been unable to satisfy myself of the invariable existence of the primary and secondary cells, and of the latter being permanently contained in the former. Then, again, in a few instances I have seen appearances that might lead to the adoption of the quoted opinion. Then, again, I am by no means satified that amorphous subgranular salts are deposited in the tubes in any case, much less in all.

I think that I shall be able to shew you that the pulp is a modification of cartilage, modified to suit its peculiar position and function, and that the development of dentine is in every way similar to the development of bone. These points must, however, be left till we have completed our investigation of the dentinal formation. You will recollect that I described the more external portion of the dentine of the fang as made of cells in a granular base. This is the first formed, and here the cells of the pulp, instead of increasing in length, widen, and the nucleus, or cavity, increases in size; it does not unite with any other, but maintains, when calcified, its permanent cellular condition. These cells may, therefore, be considered as the elements of tubes arrested in their development. Some of the cells have, however, branching tubes proceeding from their circumference; in these instances they have assumed the form of bone corpuscles. At the periphery of the dentine the intertubular matter is comparatively abundant, and highly granular.

Mr. Nasmyth considers the dentinal tubes to be baccated fibres, and not tubes. It is very obvious how the baccated appearance arises, namely, from the individual pulp-cells, which have, by their reunion, contributed to form the tube, preserving the convexity of their centres, and at the same time preserving a constriction at the point of junction—an appearance constantly seen in process of the development prior to the perfect confluence and calcification of the cells; so that the baccated appearance may be regarded as an arrest of development. The intertubular tissue Mr. Nasmyth describes as composed of cells of characteristic form. In the human subject, he says, they are somewhat square, and occupy, in single lines, the intervening space between the fibres. From his description, they may be compared to square bricks, which are imbricated and closely united, as in a building; could the fibres, or what we consider tubes, be withdrawn, we should have remaining a series of tubes, which, for illustration, we may compare with chimneys built of brick-shaped cells. I am unable from my own observation to confirm these views of dental structure.

I will now, for the sake of comparing the two tissues, osseous and dental, and their relations in development, describe to you shortly the structure of temporary cartilage, and the formation of bone. Early in the development of the embryo a series of transparent oval cells, with central nuclei, arrange themselves side by side.

In the process of growth the individual cells become separated by the interposition of a subgranular matter. Thus we have formed temporary cartilage, consisting of nucleated cells called cartilage corpuscles,

imbedded in a dense elastic uniting medium. This is analogous to the pulp of the tooth, the main point of difference being that the uniting medium, or plasma, of the latter is soft and gelatinous, while in the former it is dense. When the temporary cartilage is about to be converted into bone the cells arrange themselves into lines, not, however, by separate individuals moving from one part to another, but by the development of cells from parent cells in linear series, and then at right angles to the surface, where ossification is proceeding. Here, then, we have a process exactly similar to the arrangement in lines of the cells of the pulp prior to calcification. Immediately prior to ossification, the cartilage-cells increase in size, and the central nucleus becomes granular, and appears as though enclosed in a distinct cavity. At this formative stage we have enlarged cells arranged in lines, with an intermediate tissue separating each cell from its fellow, and also the lines or columns of cells from each other. In this intercellular tissue we find the counterpart of the intercellular tissue of the dental pulp, and in each of these the calcareous salts are received, and at the same time the tissue becomes granular. At this stage the cartilage cells uniting by their ends, have the opposed walls absorbed, and are thus formed into tubes, which is the rudimentary condition of the Haversian canals. During these changes the parietes of the cells receive ossific matter, and in the process become, like the intercellular tissue, minutely granular; each cartilage corpuscle has a central nucleus, or cell, containing one or more spherules or granules; these become more distinct as the cell enlarges, but when the cells have, by their union, formed tubes, the granular contents of the nuclei are lost. Possibly they adhere to the walls of the cells, and are concerned in the development of the bone corpuscles. Around the circumference of the tubes, developed in the manner I have described, corpuscles, or bone-cells, appear, and with them their radiating tubes, the latter being directed towards the tube or canal, which ultimately becomes an Haversian canal. In comparing the development of dentine with that of bone, we find that at first sight the pulp-cavity of the former bears a very striking resemblance to an Haversian canal, and that the dentine resembles an Haversian system. On considering the subject more carefully, we find, also, that the pulp-cavity of the tooth is analogous to the medullary cavity of bone, and that the dental tubuli are analogous to the canals formed by the confluence of the cartilage cells prior to the existence of vessels in newly-formed osseous tissue. Thus it would seem that where a tubular tissue is required, the tubes are formed by a linear confluence of cells. The nuclei and the opposed surfaces disappear, thereby leaving a tube; these tubes, whether examined in osseous or dental tissues, in their earliest stage of formation, have circular indentations both on the external and internal surfaces, marking the lines of junction of the individual cells, but as development proceeds, disappear. And further it would appear that the so-formed tubes may either retain their original character, or may become canals for vessels. This observation is equally applicable either to bone or vascular dentine. It should, however, be recollected, in making the comparison, that the cells of temporary cartilage immediately before ossification are much larger than those of the dental pulp at a similar period.

### THE ENAMEL PULP.

Subsequent to the closure of the operculæ of the tooth follicles, a granular matter is described by Mr. Goodsir as occupying the space between the internal surface of the dental sac and the surface of the pulp. This the enamel-pulp, like the dentine-pulp, is composed of peculiar and characteristic cells.

It will be remembered that the external surface of the dentine is formed of a dense transparent structure, indented on the surface with hexagonal depressions (Fig. 15). Upon this the enamel rests. The external surface of the dental sac is composed of submucous membrane; while the internal surface to which the enamel pulp is adhering is formed of a transparent homogeneous membrane, divided on its internal surface with hexagonal cells or depressions (Fig. 16). Into these depressions the cells of the enamel pulp are received, and from which they proceed in columns towards the surface of the dentine, where they terminate in the hexagonal pits. The cells composing the enamel pulp are larger than those of the dentine pulp, are more transparent, and the nuclei less distinct, clear, and without granules. In the columns they are strongly united. The lateral union between these columns is slight. If the tooth sac be carefully opened at a favourable period, the enamel pulp adheres to the inner surface of the sac, and

Fig. 15. Fig. 16.

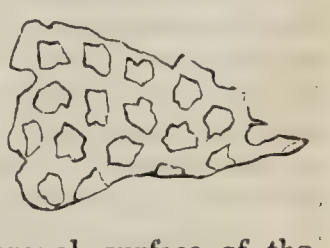

Fig. 15.—External coronal surface of the dentine.

Fig. 16.—Basement membrane of the enamel pulp.

under the microscope presents, when placed in fluid, a purulent appearance, produced by the columns of cells, the free extremities of which float about like the villi of the small intestine of the carnivorous animals. Each column is seen to be attached to an hexagonal depression, and while the cellular composition of the columns is very distinct the membrane to which they are fixed seems structureless, resembling the basement tissue of mucous membrane. Upon the external surface of this, which might be called the basement tissue of the enamel pulps, vessels ramify.

Fig. 17.

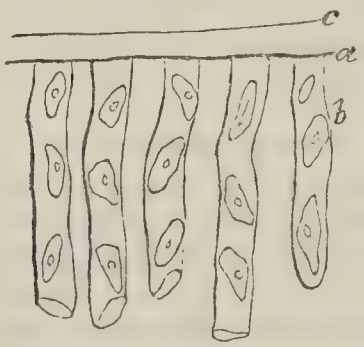


Fig. 17.—Enamel pulp ; *a*, basement membrane ; *b*, lines of cells ; *c*, vascular layer extends to the basement membrane.

I may here again call your attention to the fact illustrated in the subject before us, that the development of tissues goes on without the immediate presence of vessels. In making the comparison with mucous membrane, I should perhaps remind you that the latter is composed of two separate parts; namely, of a transparent basement tissue and of an imposed layer of epithelial cells, which are placed upon, and probably formed by, the basement tissue. In mucous membrane the cells from the external protective surface are constantly wearing off and being replaced by others. In the enamel pulp they receive earthy matter and become extremely hard, form a thick coat, and are to the more organized dentine what the epithelial cells are to the mucous membrane; differing, however, from the former in durability. This modification of the mucous membrane is extremely interesting, for you must not forget that the inner surface of the sac has been formed by a duplicature of mucons membrane. After the enamel is perfected, the tooth passes through the gum and the mucous membrane; on again forming part of the free surface, resumes its original structure and function. For an excellent account of the structure of mucous membrane I would refer you to an article, written by Mr. Bowman, in the Cyclopædia of Anatomy and Physiology.

But to return to our subject: the cells being formed in lines, they eventually become confluent; the points of union being sometimes transverse, and at other times oblique.

Fig. 18. Fig. 19.

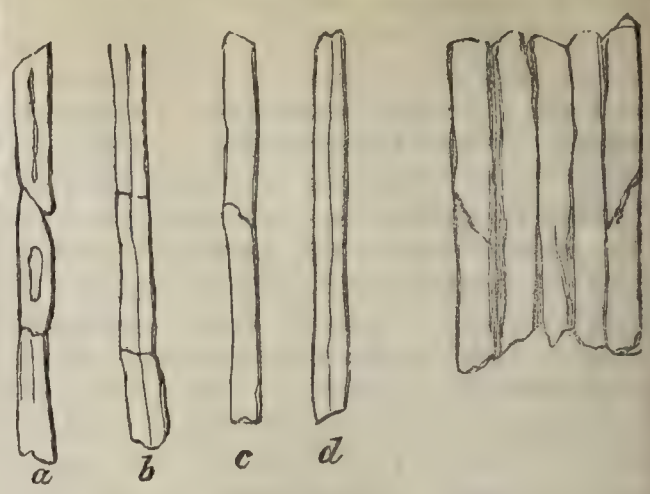


Fig. 18.—*a*, *b*, *c*, *d*, fibres of enamel in progressive stages of development from cells.

Fig. 19.—Enamel in the last stage of development prior to the disappearance of the line of union between elements composing the fibres.

At this stage the earthy elements are received, and the lines of union between the component cells of the fibres become less distinct, and are eventually lost, leaving a continuous fibre (Fig. 19). The nuclei, from the first very small, are altogether lost in the formation of the fibres, or exist as very fine tubes passing through the length of each fibre. The lateral union between the fibres is at this stage very slight, so that a fragment of newly formed enamel may with great readiness be reduced to powder. The powder so obtained is, by the aid of the microscope, seen to be composed of enamel fibres disunited laterally. Even when a tooth passes through the gum the lateral union is not very strong. We see a proof of this in the broken surface produced by the pressure of the forceps on teeth that have from want of sufficient alveolar space been removed soon after their appearance. The enamel, however, continues for a considerable time to increase in density, and at length becomes so hard that it is with difficulty that a steel instrument is made to produce any effect upon its surface. Recently-developed enamel, from the innumerable interspaces between the fibres, is very opaque or pearly. These interspaces, however, become gradually less numerous, and at last, in perfectly formed enamel, are almost entirely lost. Thus we have what may be termed a progressive growth towards the perfecting of the tissue in the enamel after the appearance of the tooth through the gum ; a fact which has, I think, been overlooked, especially by those who have considered that the dental tissues are devoid of vitality.

*The cementum pulp and its ossification.*—You will remember it was stated in a previous lecture, that with the commencement of the formation of the fang of the tooth, the cap-

sules became adherent to its surface. The adhesion is effected between the inner surface of the cement pulp and the external surface of the dentine of the neck and fang; the development of the fang portion of the dentinal pulp and the cemental pulp being consentaneous.

The enamel pulp and the dentine pulp attain the full size of the parts for the development of which they are destined, before calcification of their substance commences. Not so, however, with the cement pulp; this increases on the external surface as calcification is progressing from within outwards. The former action supplying and keeping slightly in advance of the latter.

The cement pulp is composed of nucleated cells, extended through a granular base, and each is gradually lost in the more external fibrous tissue of the coat dental sac. The nucleated cells, as regards general character and use, are analogous to those of the other dental pulps, but in appearance more closely resemble the nucleated cells of temporary cartilage. They are oval in shape, have their long axes placed transversely, and at right angles to the length of the tooth. When so arranged, the nuclei being transparent, present the appearance of cavities, which, indeed, they ultimately become. The parietes of the cells, and the interposed granular tissue, receive the phosphate and other salts of lime. The cells, with the intervening blastema nearest the surface of the dentine, are the first to be ossified; and the action commencing on the inner is gradually extended towards the outer surface of the cement pulp till the whole is ossified. Near the neck of the tooth, where the cement pulp exists only as a thin layer investing the dentine, blastema is alone present, but as the layer thickens progressively towards the end of the root, the nucleated cells appear. If we examine a single cell, or corpuscle, as these bodies are commonly called, we shall find that at its first appearance it is small, with one or two nuclei; that it gradually increases in size; the nuclei also increasing, are succeeded by a cavity; that the walls of the cell, with the surrounding blastema, receive the salts of lime; and that, lastly, the radiating tubes are developed. The cemental pulp when first developed seems to have entangled in its substance some of the fibres of the enclosing sac. Whether these fibres are ultimately removed or become identified with the blastema remains to be decided. In development, the cemental pulp bears a very close analogy to the progressive formation of cartilage; for the development of the flat bones, in which, at the various stages of growth, we find a thin border of cartilage in which the osseous tissue is developing. This border of cartilage increases in the outer surface while it decreases by conversion into bone in the inner surface.

The osseous layer of the fang is very liable to hypertrophy, which state we are accustomed to speak of as exostosis. In these cases an action is set up whereby new cemental pulp is formed, and transformed into cement. The action is accompanied by inflammatory symptoms, and resembles in its results that action which produces thickening of bone, which also is generally ascribed to inflammation. As dental exostosis constitutes a disease, we shall come to the subject in a future lecture.

I have now given you a slight account of what may be termed the new views upon dental development, most of which have arisen from microscopic investigation. I will now occupy your time for a few minutes in describing the old views. In doing so I shall not quote the various authors who have written upon dental development, or their peculiar views. Such a course would be out of place in these lectures; but I will give you an outline of the views which were generally held.

Nothing definite was known of the stage of dental formation prior to what we now recognise as the saccular stage. The sac was described as consisting of two lamellæ, each vascular, and connected to the enclosed pulp only at its base. The pulp was stated to be covered by an extremely delicate vascular membrane, supposed to be derived from the periosteum of the jaw. At the fourth month the tops of the pulp were found coated with tooth substance, which was regarded as a secretion for the external membrane of the pulp, and lying in contact with the inner membrane of the sac.

The tooth itself was supposed to be composed of a series of superimposed laminæ, secreted by the membrane of the pulp, which, becoming exhausted by its action, progressively diminished in bulk, and gave place to the secreted substance. At length the secretion of tooth substance ceases, and then a cavity is left which is lined by its proper membrane; which I presume was supposed to be that which has been described as the secreting organ. This membrane of the pulp is, I doubt not, that which I have described to you as the first to undergo ossification; and when so changed, forms the base for the reception of the enamel fibres. In the formation of the enamel the inner membrane of the sac was supposed to be solely concerned; this was described as becoming more vascular, thickening in substance, and after undergoing these preparatory changes, pours out a thick fluid, which consolidates, and afterwards becomes hard by a process resembling crystallization. The external lamina of the sac was considered to be the organ for the secretion of the cementum.

# PRACTICAL OBSERVATIONS ON SOME OF THE MORE IMPORTANT SPECIAL DISEASES OF THE SKIN.

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[Continued from p. 112.]

## *Chronic Eczema of the Hands.*

The most common varieties of chronic eczema of the hands are those that result from the direct application of irritating substances to the part, such as lime in bricklayers, sugar in grocers, potass or soda in washerwomen, mordants in dyers, or minute particles of steel in smiths, wheelwrights, &c. These forms of the disease are so well known, having received names according to the nature of the occupation that excites them almost as trivial as the *herpes periscelis and collaris*, the garter and collar herpes of Sauvages, that I need not advert to them here, but shall confine my observations to certain varieties of the disease that are not without interest to the practitioner, and that occur in individuals who are not exposed to any of the exciting causes of the disease that have just been mentioned.

In those cases to which I allude the disease is principally confined to the posterior aspect of the phalangeal and metacarpo-phalangeal articulations, spreading more or less over the dorsal aspect of the hand, and along the contiguous sides of the fingers. It is an exceedingly troublesome affection, lasting frequently for a very considerable length of time, and when apparently cured will constantly relapse; or after disappearing from one finger will make its appearance on another, partaking in this respect of the general characters of chronic eczema.

When occurring spontaneously, without the previous application of any local irritant, chronic eczema of the hands is most frequently met with in pale delicate individuals, more especially in those of a fair complexion, with light hair and eyes, in whose system there is a want of proper tone; and it is when occurring in these subjects that it assumes such a very rebellious character. Sex does not appear to exercise any particular influence upon the frequency of the occurrence of this form of the disease; at least, I find that of fifteen cases that occurred independently of any local irritant, of which I have got notes, eight were in females and seven in males.

The causes of this local variety of eczema are, when we put out of consideration the cases in which it is excited by the direct action of a topical stimulant, exceedingly obscure. It has, however, appeared to me to occur most frequently, if not always, in individuals of a relaxed or debilitated habit of body, in whom the solids are flabby and wanting in tone, and in whom the circulation is performed feebly and inactively. We most frequently find that both hands are more or less affected; when the disease occurs on one only, I think that the right is that on which it most commonly shows itself: and when of small extent it is most generally confined to the index-finger and its immediate neighbourhood.

The characters that this disease presents when attacking the hands are those assumed by chronic eczema in its worst and most inveterate forms. There is, in the first instance, an eruption of vesicles, which are most generally small and pointed, projecting but slightly above the level of the skin, and which are at first confined to a small spot, usually on one of the knuckles, or on the back of one of the fingers, whence the disease gradually creeps on until the greater portion of the back of the hand may be involved. In some rare cases, however, these vesicles are large and prominent. Of this I saw a very remarkable instance some years ago in a patient who was under the care of Dr. Carswell for acute eczema of the hands. In this case the vesicles were nearly as large as split peas, and distinctly pointed. In the majority of cases, however, the vesicles, as I have just stated, are small and pointed, and are surrounded by an inflamed areola. When they give way, a small quantity of an ichorous fluid is poured out upon the diseased surface, which is inflamed, swollen, and cracked. This fluid, in drying, forms scales of a greater or less thickness, which are usually of a yellowish or greyish colour, but sometimes assume a brownish or blackish tinge from being stained with a small quantity of blood

that exudes during the movements of the joints from the cracks and rhagades that form on their dorsal aspect. When these scales and scabs, which are most generally very thin, curled, or laminated, are removed, a raw, excoriated, oozing surface is exposed, which quickly becomes covered again in the same way as before.

When the disease is in a still more chronic condition, there is no oozing of fluid except when the hand has been unduly or improperly used; the chaps are deeper, more painful, and more apt to bleed, on any exertion. The affected part is thickened and indurated, the subcutaneous cellular tissue, as well as the skin, participating in the morbid action. The scales are thin, dry, and laminated; and indeed in this stage the disease not only resembles, but frequently runs into, a squamous affection—an imperfect psoriasis, as it were. In the form of disease that is now being described, the rhagades are, however, in a direction transverse to the axis of the finger, and are formed in the natural folds of the skin of the part; whereas in psoriasis the rhagades are very irregular, running in every direction. As frequently in a longitudinal or oblique as in a transverse one.

During the progress of the disease sucessive crops of vesicles, sometimes so minute as to be scarcely observable, or to be readily mistaken for papulæ without the aid of a lens, make their appearance; and as the affection is cured on one side these extend on the other, or gradually creep up the sides of the fingers, where it is always most persistent and troublesome, as well as about the knuckles and the sides or roots of the nails. When the disease has extended to this region it may, unless care be taken, be confounded with onychia; and it will always prove exceedingly annoying to the patient, whose hands may be completely crippled by it. I have at present under my care a wine-cooper, who has for nearly eighteen months been obliged to give up his business in consequence of his hands being rendered almost useless from eczema attacking the extremities of the fingers and roots of the nails, giving rise to a kind of spurious onychia.

The duration of this form of eczema is very considerable, and its tendency to relapse is as vexatious to the patient as to the medical attendant. I have frequently seen cases of it last for many weeks and months, and even years, an instance of which I have at present under my observation.

The diagnosis of eczema of the hands, when occurring without the previous application of a local irritant, is a matter of some consequence, more particularly if the subject of it be moving in the higher classes of society, on account of the suspicion that aways attaches to vesicular eruptions about this part.

The only other affections of the hands with which chronic eczema is at all likely to be confounded are scabies and psoriasis; and it is only from the first of these diseases that it is of much importance to distinguish it.

From scabies the diagnosis is not always easy, though in the majority of cases it is not attended with any difficulty. In eczema the vesicles are usually small, agglomerated, and collected in clusters on the back of one or two knuckles, or in patches about the dorsal aspect of the hand; and occasionally we see a raw excoriated oozing surface, which is never met with in scabies. In scabies, on the contrary, the vesicles are generally large, more distinct, not clustered, and situated chiefly between the fingers at their roots, and not on the knuckles or back of the hand. In scabies also there is a peculiar pruritus, giving rise to an irresistible propensity in the patient to scratch himself; in eczema this is not the case, and the morbid sensation is of a smarting or burning character. When, however, as is occasionally the case, the vesicles of eczema are larger and more distinct than usual, the diagnosis is not so easy, and must depend rather upon the history of the case, upon the patient's sensations, and the situation of the vesicles, than on their individual characters.

As the diagnosis of eczema of the hands from psoriasis and lichen is never, except in its most advanced stages, a matter of any difficulty, and as the history of the case and a little attention to the existence here and there of the vesicular element, will at every stage enable the practitioner to effect the diagnosis, I shall not dwell upon it here, more especially as in those chronic cases in which eczema has

assumed so furfuraceous a character as almost to run into a squamous disease, it is not of the slightest practical moment whether the diagnosis is effected or not; the treatment being directed not by the name we may give the affection, but by the actual condition of the part, the constitution of the patient, and the causes, if ascertainable, of the disease.

There is a variety of this chronic eczema or eczematous psoriasis, as it may almost be termed, that I have twice seen on the hands of medical men as a consequence of dissection wounds. In both these instances, one of which was in the person of one of the most eminent pathologists of the day, the other in a physician of this town, the disease had existed for several years, and resisted every kind of treatment that had been adopted, getting better occasionally for a time, and then reappearing with increased violence.

The treatment of chronic eczema of the hands must be conducted on the same principles that guide us in attacking this affection when occurring elsewhere. There are, however, two points that merit special attention; the first is the absolute necessity of directing the patient to keep the affected hand perfectly at rest; the other, that topical stimuli are better borne in this than in any other of the local varieties of chronic eczema.

The first thing, then, to be done in obstinate cases of this affection is to direct the patient to give up for a time those occupations or exercises, such as writing, needlework, playing on the harp, piano, &c. that require constant and rapid movements of the hands. Unless this be attended to, the rhagades cannot close, and incessant irritation will be kept up.

The topical applications that I have found of most service in cases of chronic eczema of the hands, have been, in the earlier stages, or during any temporary exacerbation of the disease, the water dressing, applied by means of oiled silk gloves, or finger-stalls; and at a more advanced period, when the disease has assumed an inactive character, a solution of nitrate of silver, in the proportion of one grain to the ounce, kept constantly applied in the same way as the water dressing.

I have lately attended with Dr. Barlow, of Upper Gloucester Place, a lady, who had suffered for some months from chronic eczema of the hands, and who has been completely cured by the continued application of this lotion in conjunction with the constitutional treatment that will immediately be mentioned. A solution of the carbonate of soda, in the proportion of from two to four grains to the ounce, will likewise, in many cases, be found of service, especially in allaying the irritation which is so troublesome. For the same purposes the following lotion—℞ Acidi Hydrocyan. Dil. ʒss.; Zinc Oxydi, ʒj.; Aquæ Rosæ, ʒviij. may be kept constantly applied.

The rhagades will usually be found to heal quickly if the hand be kept quiet, and the Unguent. Hydrarg. Precipitat. Alb. either alone, or mixed with a fourth of citrine ointment, be kept constantly applied.

In the early stages of the disease, whilst the affection is limited to a small patch, I have occasionally seen the application of a slice of fresh lemon of service. This, however, is only likely to be successful when the disease occupies a patch of the size of a sixpence or shilling.

In some cases, the disease will have yielded entirely, with the exception of a portion of the circumference of the part originally affected, where it continues most obstinately, slowly creeping on. When this is the case it may most generally be checked by rubbing the part freely with the nitrate of silver in stick.

Whatever local means be adopted, however, the cure, if effected, will not be a permanent one, unless constitutional treatment be had recourse to. This must chiefly consist in the removal of any gastric, intestinal, or uterine disturbance, and in the administration of vegetable bitters, with the dilute nitric acid, or small doses of the bichloride of mercury. I have usually found much benefit from the administration twice a day of thirty minims of the dilute nitric acid, or the twenty-fourth of a grain of the bichloride of mercury in infusion of cinchona. These means are especially serviceable when the disease occurs, as it most generally does, in pale, delicate subjects, who are in an atonic condition.

Occasionally, when the disease has,

either from the length of time that it has existed, or from some peculiarity in the constitution of the individual affected, assumed a more obstinate and intractable form, it becomes necessary to have recourse to more active measures, such as the employment of Fowler's or Donovan's solutions.

Whatever treatment be adopted it will be well to warn the patient of the great likelihood of a relapse in these cases; the disease, though apparently perfectly cured, reappearing under the influence of the slightest cause of irritation; and, indeed, nothing is more common than to find patients returning four or five times in the same year with fresh attacks of this affection.

[To be continued.]

## ON PARACENTESIS THORACIS.

*With Cases,*

By H. M. Hughes, M.D.

Assistant Physician to Guy's Hospital.

There is probably *no* disease involving important organs which is of so frequent occurrence as pleurisy, and there is perhaps none the consequences of which are, in the main, so innocuous. The almost constant presence of pleuritic adhesions in the dead body, though the persons in whom they occur had been unconscious of having ever suffered from any inflammation of the chest, and had experienced no injurious effects of any kind whatsoever, amply confirm the correctness of this proposition.

There are probably *few* diseases of a really serious character, the progress of which may be more insidious, the general symptoms of which may be more "latent," and the real nature of which, without minute examination, is more liable to be mistaken, than those of chronic pleuritic effusion.

How constantly does it happen that patients, who, from want of a proper examination, or in the absence of an efficient examiner, are supposed and reported to labour under consumption, liver disease, or indigestion, three capacious "refuges for the destitute," are, upon a proper investigation of their case being instituted, found really to labour under the consequences of extensive effusion into the pleura.

A case of this kind which occurred under my own eye will be related in this paper; another case, which was seen by a physician of some notoriety in the treatment of consumption, and which was by him pronounced to be in too advanced a stage for even his treatment, but which when examined by others was asserted and proved to be a large collection of fluid in the pleura, will be introduced in the appended table of "cases of paracentesis." I believe that the experience of all whose field of observation is extensive, must have afforded not unfrequent examples of a similar character.

But innocuous as is the tendency, and slight as are the consequences of pleurisy in many cases, and insidious as is the progress of pleuritic effusion in some others, is it not also true that cases sometimes and not very unfrequently occur, in which an attack of this complaint is the source of very severe suffering, and the cause of speedy death? Does it not happen that persons who have laboured long under chronic disease, and have been in consequence considerably reduced, are often suddenly seized with great dyspnœa and frightful collapse, which shortly terminate in death; and that upon inspection an acute attack of pleurisy with rapid effusion appears to have been the sole cause of their suffering and decease. To how many has it not happened, to see persons with one lung so disorganized as to be for all vital purposes destroyed; and with the other lung so diseased as to have a small portion only capable of carrying forward the stream of life, have that slender stream abruptly stopped by a sudden effusion into the pleura! May not modes of treatment which may have the effect of preventing the fatal consequences in some of these cases, be studied with advantage?

Numerous cases had been recorded in which the operation of paracentesis thoracis had been successfully performed before, and during the early part of, the present century. But I believe that whatsoever merit may exist in the recommendation, and the practice of its performance for the speedy cure of disease, the restoration of the function of the lung, and the prevention of deformity, is due to

the late Dr. Thomas Davies. In his lectures published in the MEDICAL GAZETTE in the year 1834, he advised its performance upon the same grounds and with the very same object with which it has been since recommended. He introduced a table of sixteen cases of pleuritic effusion (empyema), occurring under his own eye, in twelve of which the patients recovered; of nine cases of pneumothorax with tubercular complications, all of which subsequently died, and of three cases of symptomatic hydrothorax, all of which were also ultimately fatal.

In the second vol. of the second series of the Guy's Hospital Reports, (April and October, 1844,) a paper was published by Mr. Cock and myself. In that paper the operation was strongly advocated for the various purposes of preventing deformity by affording the compressed lung an opportunity of expanding, of assisting the action of remedies, the long continuance of which might be injurious; and, in some cases, of relieving urgent dyspnœa, and severe suffering; though there might be no hope of ultimately saving life. But it was our object more especially to insist upon the entire simplicity and harmlessness of the operation when performed with the precautions and in the manner therein specified.

A brief month after the publication of that paper, an essay by Dr. Hamilton Rowe was read at the Medico-Chirurgical Society, in which the operation was recommended for almost exactly similar reasons. This gentleman had never communicated with us, and so far as I am able to judge was entirely unacquainted with our publication. He had also previously published several successful cases in the MEDICAL GAZETTE. Though, therefore, his more extended essay was read a very short time subsequently to the publication of our paper, we are willing to accede him whatever honour may accrue from priority to ourselves; though, as previously stated, we feel that to the late Dr. Thomas Davies is due the merit of fairly introducing paracentesis thoracis, as an easy, safe, advantageous, and in many cases a successful operation. It is, I believe, since the publication of the paper referred to, that the operation has been recommended in *recent cases* in Paris and Dublin. With many of the recommendations contained, and of the opinions expressed in the lectures of Dr. Davies, and the essay of Dr. Rowe, the recommendations and opinions in the paper in the Guy's Hospital Reports coincide.

There are, however, a few particulars in which they do not agree. Dr. Davies, for example, was accustomed to leave a piece of elastic catheter with a stopper in the wound, and to draw off a small portion of fluid daily, while Dr. Rowe and Mr. Cock are accustomed immediately to close the wound made by the trochar, and to repeat the operation as often as it may be deemed expedient.

But perhaps a more important difference exists between the opinions of Dr. Davies and Dr. Rowe, and ourselves, in reference to the admission of air into the diseased pleural sac; both these gentlemen believing that it does no hurt, while we have been led to suppose that it may prove seriously injurious.

Upon this question it is but candid to acknowledge that our opinions have been principally derived from observing the effects of the admission of air in cases of a different nature, and that our experience in regard to pleuritic effusion has been principally of a negative character. They, on the contrary, having tried and observed its effects, believe it to be innocuous. Though, then, we are far from being disposed to grant that the admission of air into an inflamed serous sac is not, or may not be injurious, it must be acknowledged that the very strong opinions upon this question delivered in our paper should be considerably modified. At the same time, it must be noticed that in two cases related by Dr. H. Rowe, (one of them containing a portion of necrosed bone), the effusion is stated to have been fœtid, whereas we have never observed the slightest tendency to a bad odour in in the effusion. Even in the case of a gentleman, (Case XIII. Guy's Reports, Oct. 1844), whose disease has now continued for three years, who for a period of more than a year and a half has been more or less under our notice; and whose chest during the latter period has been tapped thirteen or fourteen times without the slightest inconvenience, and with the effect of

withdrawing fluid, varying in amount from ℥xviij. to three or four pints, the effusion has remained perfectly inodorous, though it has become gradually more and more purulent, especially since the occurrence of a smart attack of pneumonia upon the same side.

But even upon the supposition that the free admission of air into the cavity of a diseased serous membrane containing serous, seropurulent, or purulent fluid, could be proved to be perfectly harmless—a position we are by no means disposed to concede—we should not on that account be inclined to admit it; as a main feature of the operation, as advocated by Mr. Cock and myself, is to draw off only so much fluid as the expanding lung and the readjustment of the disturbed surrounding organs are capable of filling up. Our great object being to prevent permanent compression and contraction of the lung, we think it undesirable to admit air, which so long as it exists must continue to keep up that compression, though perhaps in a somewhat less degree than the fluid which it replaces. Independently, then, of the positive injury which we fear, it is we think undesirable to permit one fluid to be replaced by another, although the fluid which enters the cavity may be somewhat more compressible than that which is removed from it. Having in the paper previously referred to expressed my opinions upon the circumstances under which it may be deemed not only justifiable, but desirable to perform the operation, it is unnecessary here to travel over the same ground. But I cannot forbear to notice some observations made by Dr. Watson, in an exceedingly valuable clinical lecture published in the Medical Gazette, Jan. 1838, which I greatly regret that, either from inadvertence or forgetfulness, I did not previously notice.

Dr. Watson there states the reasons for his practice in "paracentesis thoracis" in the following words:—

"1. Persons who have been attacked by the disease we are considering, generally recover. It is an uncommon thing to have a patient die of simple uncomplicated pleurisy. The effused liquid is for the most part re-absorbed, and the lung expands again; or the walls of the chest shrink inwards, and the ultimate state of such a patient is as good as it probably would be after a successful tapping.

"2. The operation is attended with some pain, (though that is trifling,) always with some risk, and not seldom with considerable hazard. Not risk belonging to the operation itself, which is simple, and does not concern vital parts; but risk from its consequences. It may rekindle the inflammation; the admission of air into the pleura, which cannot, I believe, be prevented, is apt to convert the adhesive inflammation into the suppurative, or to produce decomposition of the effused liquids; and either of these possible consequences would certainly augment the danger of the patient. It is satisfactory to me to find that Dr. Stokes, in his recent most instructive work on Diseases of the Chest, expresses similar opinions. "The cases (he says) which seem to demand the operation are those where a rapid effusion threatening life occurs; and next, chronic cases, which resist treatment. But even in these cases, if life is not threatened, it seems much better not to operate, but rather give the patient the chance of the ultimate removal of the fluid by absorption.'"

Now, though I am quite willing to acknowledge that it is not very common for persons to die of uncomplicated pleurisy, I do believe that when a pleuritic affection can be justly denominated "empyema"—when, that is to say, pus, or sero-purulent fluid, exists for a considerable time in the pleura of persons arrived at adult age, it is very rare indeed for the lung to be restored to its natural functions—that it is really a very uncommon circumstance to find that the side does not fall in, that the spine is not more or less twisted, or curved, or, at any rate, that the action of the lung upon the affected side is not very materially damaged, if it be not altogether destroyed. I have watched many such cases, and am perfectly convinced that I have substantial foundation for this belief.

Much has been said of the cases of "empyema," treated and cured by the late Dr. Hope, with mercury; and by Dr. Stokes, with Lugol's solution of iodine, blisters, &c. Cases of a similar character might, I doubt not, be advanced in numbers by almost every physician engaged in extensive practice, either public or private. It is not,

however, stated upon what evidence the cases thus treated and cured were regarded as cases of "empyema;" nor are we informed, supposing them really to have been cases of empyema, to what extent the functions of the affected lung were restored. Persons may be, and often are, honestly reported to be cured of chronic pleuritic effusion, because the dilated side is reduced in size, the cough ceases, the dyspnœa disappears, and the general health is in a great measure restored. But the functional efficiency of the formerly compressed lung is little regarded, and upon subsequent investigation it is often found that the side is in reality deformed; that it moves but little upon inspiration; that the respiratory murmur is very deficient, if not entirely absent; and that if it should unfortunately so happen that the other side of the chest should be attacked with acute disease, the suffering of the patient is excessive, and his danger extreme. A case of this sort is now in the hospital, and was recently under my care. Four years ago he was in the hospital for pleuritic effusion of the right side. This was so far removed, that, if he was not actually cured, he was so far restored as to be able to recommence, and for four years to follow his employment as a travelling vendor of greens and other garden wares. Within the last two months he returned to the hospital with many of the general symptoms, and with the aspect of phthisis, and actually suffering from severe cough and great emaciation. The lung upon the right side was found upon examination to be utterly useless, and that upon the left side appeared to be tolerably healthy; but the circumstance to which I wish especially to direct attention is the fact, that while in the hospital on this second occasion, he was suddenly seized with alarming dyspnœa and collapse. These upon examination were found to arise from a comparatively slight attack of inflammation of the pleura upon the sound side, easily reduced by the mild antiphlogistic treatment which was at length adopted. His extreme distress, however, was such, and his immediate danger from the alarming depression was so great, that for the space of thirty-six or forty-eight hours it was believed that he must have died, and it was only after his restoration by the free administration of wine, ammonia, and other stimulants, that those mild antiphlogistic measures could be consistently or safely adopted. This case was formerly considered one of empyema, *cured* by internal remedies; and it is possible that it had as good a title to be so esteemed as many at least of the cases which are so regarded and reported. When the opposite lung or pleura becomes seriously diseased or acutely inflamed, then it is, and often not till then, that the perfection of the cure of a former attack is satisfactorily tested. Such cases appear to me to have a most important bearing upon the operation of paracentesis.

It is not my intention in this paper to advocate the performance of the operation in all cases of chronic pleuritic effusion, or, indeed, to advocate it at all, unless that can be considered advocacy which consists in relating *all the cases, whether successful or unsuccessful,* which have occurred to myself since my last publication upon the question, and stating the reasons which induced me to recommend it in those cases. But I may, I think, observe, that it is for the purpose of preventing attacks similar to that which occurred in the case referred to; that it is for the purpose of reducing the complaint before it has produced the effects which may lead to such consequences; it is, in fact, with a view of withdrawing the fluid before firm adhesions have been formed, before the lung has been strongly bound down, and plastered over with a thick coating of fibrin or albuminous matter, that the operation has been recently recommended, in contradistinction to that of merely relieving urgent distress or of preventing suffocation. Until a comparatively recent period the operation, simple as it is, and harmless as it has been proved to be, had not been performed until almost every other mode of relieving the patient had been tried without effect, and the powers of the patient had become greatly exhausted. Hence it happened that the operation was not only generally unsuccessful, but was considered an affair of much importance, and of considerable danger. If operations for other complaints had been thus unreasonably delayed—if that for hernia, for example, had been almost uniformly deferred till gangrene had taken place, it may

be fairly assumed that surgeons would not have had so many cases of that disease to point out as triumphs of their art.

Upon the second paragraph quoted from the lecture of Dr. Watson, it may be important to observe, that though I am unable experimentally to measure the degree of "pain" produced by the operation. I believe it to be very trifling; and certainly not amounting to that arising from the application of a blister. As to the "risk" of the operation, I can conscientiously assert that I have seen none. I have never seen a single case in which, when it was performed in the manner recommended by Mr. Cock and myself, it was attended with the slightest risk, though in an earlier period of our practice I know that a case occurred (Case 1 in the former paper), in which the individual fainted, and was affected with alarming collapse, in consquence of the fluid being drawn off too rapidly through a large canula; and though one person certainly contracted an attack of bronchitis followed by pneumonia, from exposure during operation, I believe that in most persons the "risk" of the operation is not greater, and that in many persons it is really not so great, as the risk of a prolonged mercurial course.

"That the admission of air may rekindle the inflammation" we believe, and "that its admission may convert the adhesive into the suppurative inflammation" we also believe; but we are very far from thinking that "its admission cannot be prevented." It is, indeed, a rare circumstance with us for a single bubble of air to enter the pleura—though two, three, or four pints of fluid have been withdrawn; and though in many cases the operation has been performed several times, and in one case as many as thirteen or fourteen times. In this individual air did, on two occasions, enter the pleura during the act of coughing or a sudden involuntary gasp. Air is there still, and has remained there ever since: we are, indeed, far from being certain that in this individual there may not have been a very minute communication with one or more bronchial tubes, but we have never had any evidence of the air having been absorbed, and the patient's own strong impression is, that since it first entered it has never been removed. The fluid in this case remains perfectly inodorous.

The reason why air does not necessarily enter the pleura, and the mode in which, with proper care, it can be prevented doing so, are both, I think, sufficiently evident. Unless the lung is capable of full and free expansion we do not attempt to draw off all the effused fluid. We remove, indeed, only so much as the expanding lung and the surrounding compressed organs are capable of replacing. The opening is carefully watched, particularly during the act of inspiration and of coughing; and when the stream begins to fail the body is turned towards the punctured side, till there is at length an alternate flow and stopage of the stream during the acts of expiration and inspiration. When this occurs we withdraw the canula—when, in fact, there exists a tendency for the external air to enter the cavity, that tendency is at once stopped by closing the aperture. Sometimes it is true that a considerable portion of fluid is thus left behind.

This remaining fluid, if not absorbed, must be removed by a second operation, which is so slightly painful, and when properly and carefully performed, is so simple, and is usually the means of affording such great comfort, that I have never known a patient object to it who had once gone through the ordeal.

On some occasions, when the effusion is recent, the whole of the liquid may be removed at once without the admission of any air. The operation thus becomes a very tolerably correct indication of the state of the lung, and of its capability of restoration, and thereby affords a substantial ground upon which to found a prognosis.

We are induced to adopt this plan for the exclusion of air, first, because we believe it may be, and in reality often is, positively injurious; and, secondly, because if it does no harm it can certainly do no good: the gas supplies the place of the liquid; we admit one cause of compression while we withdraw the other. In either case the lung is more or less compressed, and its expansion is consequently prevented.

From the latter part of the quotation, that, namely, extracted from the work of Dr. Stokes, in which it is stated—"If life is not threatened, it seems better not to operate," I need scarcely say we entirely dissent.

The circumstances under which we consider the operation desirable have

been mentioned in the paper before referred to, and need not, therefore, be repeated here; as upon our opinions on this part of the question our increased experience has produeed no change. We are, however, desirous of modifying, in some measure, the directions therein laid down in two particulars. One refers to the compression of the parietes of the chest and abdomen, which is there recommended to be practised. Now, from having observed that an attack of coughing has often followed the exercise of this process, in consequence, as we presume, of the greater expansion of the lung which is thereby induced, we now believe, that this part of the directions may be advantageously omittted, and that it is better to take away only so much of the liquid as flows spontaneously by inclining the body. Secondly, with the view of preventing cough arising from the too sudden expansion of the lung, and of allowing the organ gradually to accommodate itself to the enlarged space, we are now in the habit of applying a flannel bandage with moderate firmness around the chest, after the operation is completed. In reference to the operation itself I have been accustomed to prescribe to myself certain rules and precautions, which may be, perhaps, advantageously here introduced for the direction of those who are not accustomed to see it performed:—

1.—It is well never to propose it without having previously inquired into the history of the case, and minutely investigating the general symptoms as well as carefully ascertaining the physical signs.

2.—After this has been effected, and all the ordinary means of diagnosis have been fairly and fully brought into requisition, the trochar should never be introduced before the exploring-needle has been employed for the purpose of confirming the correctness of the diagnosis previously made.

3.—The puncture of one side of the chest, excepting under circumstances of imminent danger, should never be made before it has been clearly ascertained that the lung of the opposite side of the chest, if not quite free from disease, is at least capable of carrying on the respiration.

4.—The fluid should be drawn off slowly through a small sized canula, if the effusion is thin and serous, and through one of rather larger size if the fluid is thick and purulent.

5.—So much only of the fluid should be withdrawn as flows spontaneously without the admission of air.

6.—The escape of the fluid should be favoured by an inclination of the body towards the punctured side.

7.—It is desirable after the operation to support the chest with a moderately tight flannel bandage, to keep the patient in bed and desire him not to talk for a period of twenty-four hours; after which, *if his complaint would not on other accounts confine him to his bed*, he may leave it without inconvenience or danger.

With these rules or precautions the operation may be performed, in very many cases, with great benefit; and in all cases, as far as I am able to judge from a pretty extensive opportunity of observing its effects, without danger.

I now proceed to give an account of *all the cases* of "paracentesis thoracis" which have occurred in my own practice since our last publication on the subject; dividing them into those in which the operation was performed with the hope and the prospect of assisting in the cure of the complaint, and those in which it was performed for the purpose of affording temporary relief, without any anticipation of ultimate benefit. I shall then give a brief sketch of some cases in which the exploratory puncture was made for the purpose merely of confirming or correcting the diagnosis; and — lest it should be supposed that in all cases of pleuritic effusion I am inclined to recommend the operation—cases will be then introduced in which the ordinary treatment was followed with complete success. To the end of the paper will be appended a table in continuation of that formerly published, in which will be introduced not my own eases only, but all those with which I have become acquainted, and which have not been previously published, since October 1844.

[To be continued.]

## MEDICAL PRIZE ESSAY.

THE Committee of the Society for Improving the Condition of the Insane have awarded their second prize of ten guineas to Mr. George Wilson, Surgeon, of Leeds, for an Essay on the Pathology and Treatment of Puerperal Mania.

CASES OF

# DIABETES MELLITUS, &c.

By John Percy, M.D. Edinburgh.

[Continued from p. 225. Vol. 2, 1843-44.]

*(Conclusion of Case II. p. 222.)*

During several weeks after the date of the last published observation of this case, the patient continued relieved. He passed in the 24 hours only three or four pints of urine, which frequently contained a deposit of uric acid and urate of ammonia, and generally had the specific gravity of 1030°; he did not rise in the night to make water; he was not troubled with thirst; his appetite remained, notwithstanding his rigid restriction to the prescribed animal diet; he was enabled to walk several miles daily; emaciation did not appear to progress; and he pursued his business as usual. At length, without assignable cause, and while an animal diet was still persevered in, the disease began to make decided advances; the urine was increased in quantity to six or seven pints in the 24 hours, and in specific gravity to about 1036°; it also became lighter coloured, and the usual deposit ceased; the patient was disturbed in the night by calls to make water, and complained much of thirst, and of dryness of the mouth and fauces, especially in the morning; walking exercise became very fatiguing, emaciation evidently progressed, and animal food ceased to be eaten with relish; there was occasionally constipation, and one day the patient had a severe attack of pain in the bowels, attended with cramp in the legs and the discharge of blood per anum, which we suspected might depend upon the retention of scybala, and which accordingly was only effectually relieved by the evacuation of a *very large* quantity of fæces, induced by a purgative which Mr. Wickenden administered. Under these discouraging circumstances he became dispirited, and expressed a wish, at the suggestion of friends, to try the hydropathic system. We, however, advised him immediately to consult Dr. Prout; he complied with our advice, and saw that distinguished physician more than once. Dr. Prout suggested the exhibition of the citrate of iron, and after the principal meals magnesia, and the addition of a small quantity of bread to the usual diet. Dr. Prout informed us that he had never yet seen a condition of the urine similar to his in quality recovered from; a statement confirmed by the sequel of this case. At length, the advice of his friends prevailed, and the patient placed himself under the care of the hydropathist. Mr. Wickenden and myself now entirely lost sight of him, and Mr. W. only saw him again alive a day or two preceding his decease. We heard it reported that at first the hydropathic system was producing decidedly beneficial effects, and that recovery was not only anticipated by, but promised to the patient. We believe that the system was in this case fairly carried out, as the patient engaged the services of a hydropathic nurse when he returned home from the establishment. He died tranquilly at 1, p. m. July 22d, 1845. His death occurred much sooner than was expected by his friends. The day before his decease he was seen by Mr. Wickenden, to whom he chiefly complained of prostration of strength, and difficulty of breathing.

We made a very careful post-mortem examination twenty-three hours after death. Present—Mr. Wickenden, Dr. James Russell, and myself. I give a description of the appearances in the words of Mr. Wickenden, who drew up the report.

"*External appearances of body.*—About six feet in length; symmetrical in skeleton; much emaciated, though his body appeared less so after death than a week before; that must have occurred in consequence of effusion having taken place in the cellular membrane generally. The cuticle extensively separated upon the arms and fore arm, especially on the flexor side, where it had not yielded; it contained in pouches two or three inches in length, a bloody serum in considerable quantity; it was easily detached universally; the body was inodorous.

"*Head.*—Scalp bloodless, until separated below the crucial ridge of the occipital bone; the calvarium thick, and marked deeply with blood-vessels; slight effusion between the dura mater and arachnoid membranes, and more considerable betwixt the arachnoid

and pia mater; the substance of the brain, both cortical and medullary, firm; the lateral ventricles contained a transparent light straw-coloured fluid; the plexus choroides very pale and almost bloodless; the membrane constituting the tentorium unusually thick; the cerebellum natural, but very firm; the spinal cord was also very firm, or rather hard, as were the nerves generally so far as they were examined.

"*Chest.*—The lungs were healthy; diligent search was made for tubercle or tuberculous deposit, but not a trace was found in any part; the pleura of right lung slightly adherent at the summit; the cellular tissue of the lungs was infiltrated, and the air-passages filled with a white frothy seromucous secretion; the heart natural, a fibrinous clot in the left ventricle; within the inner coat of the aorta was slight atheromatous deposit; the pericardium contained about an ounce of serum.

"*Abdomen.*—The stomach and alimentary tract healthy, as were all the organs within the cavity of the peritoneum; the kidneys were very large, soft, and of light colour; the gall-bladder was full of bile, and the urinary bladder contained about six ounces of urine; the colon and rectum contained scybala of large size."

I transmitted a portion of the stomach for microscopic examination to my friends, Mr. Bowman, of London; Mr. Busk, of Greenwich; and Mr. Goodsir, of Edinburgh; and I have much pleasure in inserting their valuable reports. The specimens were sent immersed in Goadby's solution.

1. *Report of Mr. Bowman.*

"14, Golden Square,
Aug. 23d. 1845.

"My dear Sir,—I have examined both specimens, (specimen of stomach and kidney) carefully, and this is the result. The saline solution in which the parts were placed has altered the particles of epithelium; but this does not prevent me from offering you my opinion, that the mucous membrane of the stomach is healthy in structure. Of course, I cannot answer for the chemical qualities of the epithelial cells, which go to form the secretion, but only for their appearance under amplification.

"The kidney rather large, and on incision exhibiting parts whitish and more opaque than the rest. This seemed to depend upon the epithelium of the tubes being somewhat altered, but I really cannot say definitely how, considering the action of the "Goadby." In many of the tubes the epithelium was loose or deficient, but it may, nevertheless, have been quite natural during life, for it is usually very easily detached. Plenty of the epithelial cells existed, but with the nuclei more distinct (like those of the stomach), and the contents transparent, and a good deal of the granular matter, of the nature of which I cannot undertake to speak. There was also a considerable quantity of fat globules. I fear you will imagine this account bald and unsatisfactory. It is, however, the whole truth as far as I can venture to vouch, and I am sure you want no spinning from my own yarn.

"These specimens ought properly to be examined absolutely fresh. I shall be at all times happy to give you any help I can; and meanwhile, believe me,

Sincerely yours,

"W. Bowman."

2. *Report of Mr. John Goodsir, Edinburgh.*

"Edinburgh, 7th Aug. 1845.

"My dear Percy,—I have examined the portion of stomach which you sent, and have very little to tell you concerning it. Spread out on a flat surfaee, with water enough over it to keep it moist and plump, and examined with an ordinary lens ½ to 2 inch focus, it has presented to me the following appearances. With the exception of the spots to be mentioned immediately, the mucous membrane exhibits the secondary rugæ perfectly natural in aspect, and with their intervening sulci, resembling the convolutions and sulci of the brain. The surface of the rugæ presents the mottled appearance arising from the orifices of the closely set follicles. A small portion of the cardiac end attached to the specimen is of course smoother, not rugous, nor so follicular. Pretty generally over the pyloric portion there are scattered elongated ulcerations, either parallel to axis of stomach, or to the sulci, or in the sulci themselves, about ⅓, ⅛, ⅟₁₆ inch across, or in length. These do not pass through the mucous

membrane, are irregular in surface, and deeper in colour than the surrounding substance. Here and there, also, there are cicatrized looking spots radiating from their centres, and probably healing or healed ulcerations. There are also a few spots ¾ and ½ or ¼ inch across, whiter than the surrounding surface, slightly depressed, probably cicatrizations, but still here and there presenting orifices, somewhat large and distinct, of gastric follicles.

"On the small portion of cardiac surface these diseased appearances are not perceptible, either from the minute portion retained, or because the left end of the organ was less diseased. With higher powers the natural rugous surface presents the orifices and cavities of the close-set parallel follicles crowded with epithelia, all natural in appearance.

"On the large white slightly depressed patches, the follicles are either short, small, and scattered, or not visible at all.

"I have nothing more to tell you regarding this morbid specimen. I have not made the *intimate* structure of the human stomach a special study, so that I am not at present altogether in such a position as to entitle me to give a decided opinion. Mr. Bowman, I have no doubt, has carefully looked at it, and will give you a satisfactory opinion.

"For my own part I have no confidence in the microscope, except in a mere morphological research. I cannot think the slight ulcerations of this stomach have any thing to do with the diabetes, so that in my opinion the stomach cannot be pronounced by the mere anatomist as diseased. I do not say, however, that this stomach, although morphologically, is, therefore, functionally healthy. The forms of its cells may be normal, yet the forces residing in them may be changed, just as the forms of a liver and kidney cell are very similar, although the one forms bile, the other urine. I am, you will see, a great sceptic in all biological researches and results, beyond the pale of simple morphology or the laws of form, and the simplest inductions from them. I am sure much injury has been done by the premature and rash conclusions to which many have come by the use of the microscope.

"I should like to have the opinions of Messrs. Bowman and Busk on thi subject.—Yours very truly,

"JOHN GOODSIR."

3. *Report of Mr. Busk, Dreadnought Hospital Ship, Greenwich, with drawings.*

"Greenwich, Aug. 1st, 1845.

"My dear Sir,—I have examined the portion of stomach you sent, and compared it with one recently taken from a man who died a few hours after being severely scalded, and who was previonsly in perfect health.

"In consequence of the portion of stomach you sent having been placed in Goadby's solution, I was of course deprived of the opportunity of examining the matter it might have contained, and was obliged to restrict the comparative examination to the mucous membrane, and the viscid mucus immediately adherent to its surface, in each case.

"With respect—

"1. To the mucous membrane itself I could detect no difference, either to the naked eye or under the microscope, in the constitution of the membrane, or in the appearance of the epithelial or mucous cells; but

"2. In the viscid mucus adherent to surface there was this difference. (*a.*) In the mucus of the stomach of the diabetic patient, I observed numerous minute sporules (?) of a confervoid character, (fig. 1, *a. a. a.*) of about $\frac{1}{4000}$ of an inch in diameter; and also many minute portions of a confervoid mycelium, apparently produced from similar sporules, (fig. 1, *b. b.*) The saline solution in which the stomach had been placed contained abundance of similar sporules and fragments of mycelium, which I suppose have been washed off from the stomach. I have before observed similar sporules in the fluid of a stomach containing abundance of *sarcina ventric.* (Goodsir), a stage in the development of which I at that time supposed them to be. They are figured in the Microscopic Journal, vol. ii. p. 322.

(*b.*) In the viscid adherent mucus of the healthy stomach, which was very abundant, I could not see a single confervoid sporule or filament, nor anything like them, but it contained instead of them an immense number of actively moving *vibriones*, (fig. 2, *b.*) together with the remaining nu-

Fig. 1.

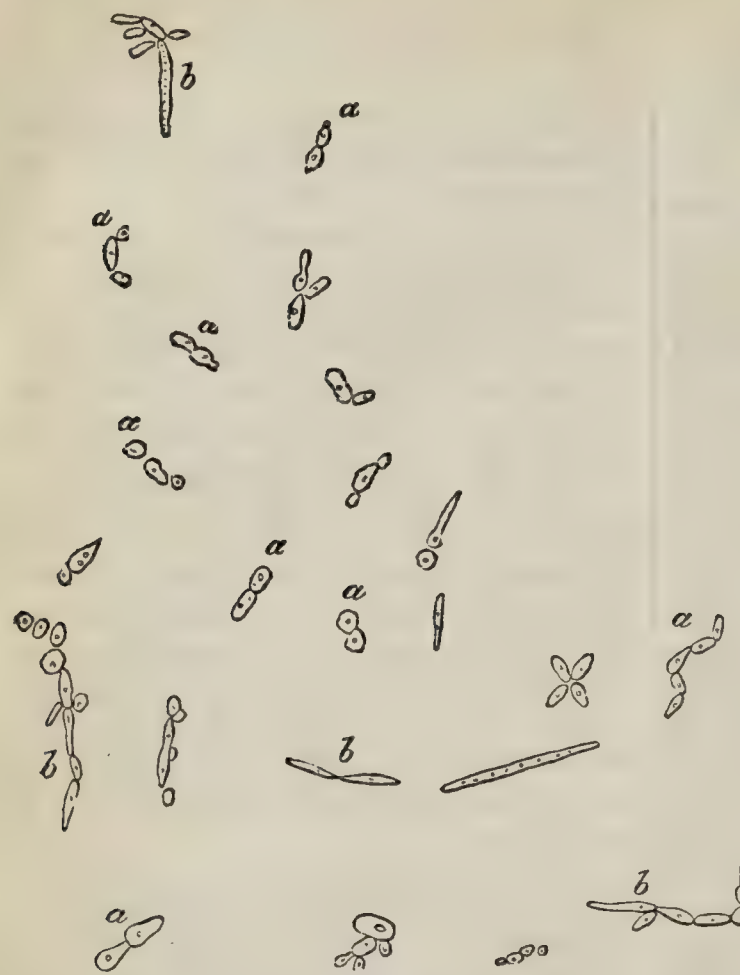


Fig. 2.

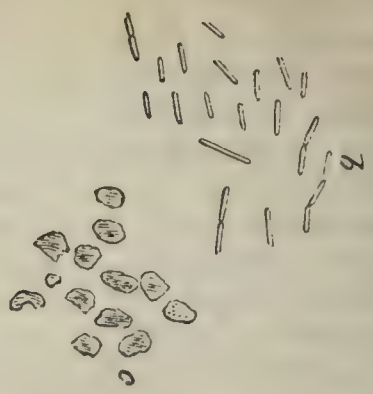

Fig. 3.

clei (?) of epithelial cells, (fig. 2. *c.*) Fig. 3 shews large nucleated epithelial cells filled, or rather distended, with fine granular matter, which occurred in the brownish more fluid contents of the healthy stomach. These, I suppose, proceed from the follicles or foveæ of the mucous membrane, and contain the peculiar secretion of the stomach. The peculiarity, then, of the diabetic stomach appears to consist in the presence of confervoid sporules and filaments in the mucus, instead of the vibriones which are present in that of the healthy stomach, and not one of which could I detect in the mucus of the diabetic one.

"Would it not, then, be interesting to examine the matters vomited by diabetic subjects, with the view of ascertaining the constancy, or otherwise, of such growths in them?—Believe me,

Yours very truly,

"G. Busk."

*Examination of the urine.* — By squeezing the bladder I obtained six fluid ounces of urine. Colour, pale brown. Turbid. Filtered perfectly bright. Contained whitish deposit. Odour like that of flesh in incipient putrefaction. Reddens litmus. Filtered urine coagulated by heat; coagula not dissolved by $N O^5$. (*Albumen*); sp. gr. 1016, 64° Fah. 100 grains by evaporation in vacuo over $S O^3$, furnished of light brown residue 4·11 grains, or 41·10 per 1000.

I attempted to separate the urea in the usual way by adding $N O^5$ of density 1·2 to the residue obtained by evaporation of the spirituous solution. Effervescence, however, occurred, with the evolution of nitrous gas, and not a particle of nitrate of urea was obtained. I have frequently known the same thing to occur, and it has appeared to me probable that the indeterminate organic matter mixed with the urea has been in such an unstable condition as rapidly to effect the decomposition of the nitric acid; and, consequently, by the production of nitrous acid, to effect also the decomposition of the urea. In such cases it would probably be requisite to employ oxalic instead of nitric acid in the quantitative determination of the urea.

100 grains of urine fermented with yeast over mercury gave of gas corrected for temperature and pressure 1·75 C. th. (The volume of liquid is allowed to have absorbed an equal volume of carbonic acid). This volume of gas corresponds to 1·86 of grape sugar, ($C^{12} H^{14} C^{14}$), or 18·60 per 1000.

500 grains of urine evaporated and incinerated gave of salts soluble in water 2·23, or 4·46 per 1000, and of salts insoluble in water 0·42, or 0·84 per 1000.

The proportion of albumen was not determined. We have, then, the following analysis of 1000 grains.

| | |
|---|---|
| Solid residue . . . . | 41·10 |
| Water . . . . . | 958·90 |
| Sugar . . . . . | 18·60 |
| Urea, albumen, and indeterminate organic matter . . | 17·10 |
| Salts soluble in water . . | 4·46 |
| Salts insoluble in water . . | 0·84 |
| | 1000·00 |

The aqueous solution of the salts instantly restored the colour of red litmus paper, and furnished a copious curdy white precipitate insoluble in $N O^5$, a solution of nitrate of silver having been added.

[To be continued.]

RELAPSES AMONG THE CASES OF INSANITY AT THE SALPETRIERE, FROM 1840—1845.

THE number of patients on the 22nd of September last, amounted to . . . 1428
Admitted prior to 1840 . . . . . 559
Admissions since Jan. 1, 1840 . . . 869
No. of relapsed cases in the latter . . 141

It is thus apparent, that there was one case of relapse out of 6·16 admissions. The proportion may be even greater, since possibly some of those admitted may have been relapsed cases. With regard to the proportion in the 559 admitted prior to Jan 1. 1840, no satisfactory information could be obtained.—*Gaz. Méd.*, Janvier, 1846.

DR. FORBES ON HOMŒOPATHY.

"IN adhering to allopathy, we consider that, though we are embracing a system extremely imperfect, we are at least embracing one which, with all its faults, contains a considerable amount of truth, and a yet greater amount of good: and which, above all, is, or may be made, in its exercise, consonant with the principles of science, and is capable of indefinite improvement; while, in rejecting homœopathy, we consider that we are discarding what is at once *false and bad, useless to the sufferer, and degrading to the physician.*"—*On Homœopathy, Allopathy, &c.* by J. Forbes, M.D. F.R.S. 1846, p. 34.

[This may be regarded as a tolerably fair summary of the value of the "Novum Organon practice," by one who has certainly shewn a strong desire to balance impartially the merits of the old and the new systems of medicine.—ED. GAZ.]

# MEDICAL GAZETTE.

FRIDAY, FEB. 13, 1846.

IN our remarks on the Report of the French Commission, relative to Vaccination,* we observed that they had suggested the propriety of re-vaccinating individuals who had reached the age of puberty. Before discussing the necessity for this procedure, it may be well to examine the grounds upon which this recommendation is based. The most important of these appears to be, that the attacks of small-pox among the vaccinated, are most frequently observed among those who have reached the age of puberty, and the liability continues up to thirty or thirty-five. Beyond this period, the constitution is stated to be no more susceptible of attack than it is while under the influence of vaccination below the age of puberty. When conclusions bear so powerfully on practice, the premises upon which they are founded require a close examination, and we confess that we here feel disappointed with the report—for some of the facts detailed by the committee are decidedly adverse to them.

The effect of this alleged deterioration of the vaccine influence, according to the number of years it may have remained in the human system, is considered by the reporters to explain what they appear to regard as an established fact with respect to the mortality from small-pox—namely, that in the old tables, before the introduction of vaccination, the greater number of deaths occurred generally under the age of ten years; while in the tables of mortality from the disease after vaccination, the preponderance of deaths is from ten to thirty. We

* P. 36.

do not, however, find, in the report furnished by the committee, any facts to confirm this statement. It appears that many of the competitors had arrived at this result by their calculations;—that the opinion was in conformity with that entertained by the physicians of the Parisian hospitals, and by those who had attended the sick during the prevalence of the epidemics. We take leave to doubt the correctness of the conclusion; and we think that there is sufficient evidence furnished by the commissioners themselves to render it inadmissible. Before referring to this evidence, it may be well to remark, that no fair inference can be drawn of the influence of *age* in respect to the attacks of any disease, unless a close comparison be instituted of the proportionate numbers *living* at particular periods of life. Most of these cases are dealt with by statisticians, as if there were an equal number of persons living at all the decennial periods of existence: and one great fallacy of this description we lately had occasion to expose.* We do not find in the Report, that this source of fallacy has been attended to—we have merely a gross mortality assigned for children and adults, the former occurring, as is most probable, chiefly among the unvaccinated, the latter it is alleged among those who have undergone vaccination.

According to the Committee, the city of Paris itself furnishes a striking exception to the inference above alluded to. The Commissioners found that taking a period of ten years, 1820 to 1830—therefore including the great epidemic of 1825—there were 5,973 deaths from small-pox. Of these there were between the ages of one and five years, 3,367 cases; between five and ten years, 1,158; between ten and thirty years, 1,222; and from thirty to eighty years, 92. These different numbers are, in a great measure, obviously dependent on the variable population at the different ages. Nearly three-fifths of the fatal cases occurred under the age of five years; and we agree with the view taken by Dr. Stark,* that such cases should be regarded, in the absence of any evidence to the contrary, as occurring among the unvaccinated—therefore throwing no light whatever upon the question at issue. With respect to the other deaths, we have no distinction drawn between those who had, and those who had not undergone vaccination. It would be a great error to infer that the mere attacks and fatal cases among adults, are indicative of the prevalence of the disease among the vaccinated; for it appears, according to Dr. Stark's tables, quoted from Dr. Bousquet, one of the competitors, that not more than sixty per cent. of the French population are protected by vaccination!

The Government tables, adduced by the Committee, appear to us, therefore, to prove nothing with respect to this important question; but we have strong negative evidence of the error of one of their conclusions, and of the persistence of a preservative power in the vaccine virus beyond the age at which it is alleged to lose its influence, in the following statement:—The hospital of La Pitié, in Paris, had for many years been devoted to cases of small-pox. Owing to the increased number of patients during the epidemic years, many were received into other hospitals, and in some instances the disease broke out after the admission of the patients. The result of correct observations made during a period of thirty years, is that notwithstanding the vaccinated were

* Vol. xxxvi. p. 1198.

* Inquiry into the Prevalence and Fatality of the Small-pox, &c., in Edinburgh. 1845. This is a remarkably well written pamphlet, containing an interesting collection of statistical tables.

unavoidably placed in the same wards with those affected with small-pox, the greater number escaped an attack! This fact, accidentally observed, is the more important, because it is an undoubted medical truth that patients are more especially liable to the attacks of contagious disease during the period of convalescence. A second material fact is, that the attendance on those affected with small-pox is assigned chiefly to adults, who, with the medical students visiting the wards, may be regarded, except in some rare instances, as having all undergone vaccination.

We have here, then, vaccinated individuals at the ages of from twenty to twenty-five years—the period at which it is alleged in the Report that the vaccine virus has lost its efficacy—continually exposed to the contagion of the small-pox, applying dressings, and ministering in every other way to the wants of those affected with this highly contagious disorder, without contracting the disease. This is the result of the experience, not of one or two but of *thirty years!* In what way is the escape of these adult patients and hospital attendants to be explained, if the allegation made by the reporters be true, that the vaccine virus loses its power after the age of puberty? The preservative influence was so decidedly manifested as to induce the Committee to suggest whether the few exceptional cases of attack might not have occurred among those who had not been *properly* vaccinated! Without detracting from the merits of the great discovery of Jenner, we think, however, it may be conceded that occasional attacks may happen even in those cases in which the vaccine vesicle runs through its course in a normal way. Small-pox does not appear to have specially attacked those among the vaccinated, in whom there had been some slight difference in the local appearances.

A correspondent, who lately addressed to us a sensible letter on the subject of revaccination*, fairly asks—By what principle, or under what law, does the modifying power of vaccination cease at or about the age of puberty? In this investigation we have been desirous of determining the validity of the premises upon which such a conclusion was based. If it had been demonstrated by carefully-ascertained facts among the vaccinated, that, considering the *numbers living at different ages*, and under equal exposure, adults were far more frequently attacked by small-pox than children under ten years of age, any theory on the subject would be unnecessary; we should have to deal with the fact. But in the very part at which we should have looked for evidence of this kind it wholly fails, and the conclusion at which the reporters have arrived, is not justified by the data. The experience of the Parisian hospitals in the comparative immunity of adult nurses and attendants over a period of *thirty years*, is decidedly against them. Whether the disease is more or less fatal among adults when they are once attacked by it, is entirely a distinct question; although it may, under proper precautions, throw some light on the relative numbers attacked. In order to establish the position assumed in the Report, it must be made evident, 1, that there is as great a liability to attack among adults as among the unvaccinated; and 2d, the vaccinated are, *cæteris paribus*, attacked in far larger proportion after than before puberty.†

* See paper by Mr. Newnham, vol. xxxvi. p. 1062.

† We here throw out a hint to our friends the Registrars whereby they would confer some benefit. In their notes it would be advisable to state, not only the mortality from small-pox as it occurs among those who have or have not been vaccinated, but also to state the ages of the vaccinated cases which prove fatal according to decennial periods—under five years—from five to ten—from ten to thirty—and above thirty years. This, it is true, would rather indicate the general

We cannot help regarding the conclusion at which the Committee have arrived as being based upon some statistical error. The proviso which accompanies the conclusion appears to us to be wholly inadmissible, except upon the very clearest evidence, *i. e.*, that the immunity from an attack of small-pox is spontaneously resumed in the vaccinated without revaccination *after the age of thirty-five years!* That the protective influence should exist, *disappear*, and then return in the vaccinated, is so contrary to all physiological and pathological views of the subject, that until much stronger evidence than we have yet seen is adduced in its favour, we must hold to the opinion that the conclusion depends upon some mistake in the figures, or upon the omission of some very important item in the calculation—probably the neglect of noticing the relative numbers living at different ages.* It simply involves the inadmissible postulate, that the vaccine virus loses its effect by a short, but regains it by a longer retention in the system. If the protective power does in reality disappear by time, it follows, unless the reporters profess to have discovered some new and extraordinary law of nature, that the longer the time which elapses after vaccination, the less will the individual have the power of resisting an attack of small-pox. Facts and reasoning are against them, and their conclusions on this part of the subject, exactly neutralize each other.

rate of mortality than the precise number of attacks; for there might be many deaths among adults with comparatively few attacks, or the reverse. Nevertheless, the information might become valuable. We have looked carefully over the notes of the 389 deaths in the Quarterly Report for September 1845, and in only a solitary instance do we find a registrar making a note of facts upon which the whole doctrine of revaccination is based. This is in the district of Burton-upon-Irwell, where it is stated that several persons took the disease between the ages of 18 and 26, and one died at the age of 39. These facts connected with age should be stated in all the quarterly returns; they are as important in relation to vaccination as those connected with the comparative numbers attacked among the vaccinated and unvaccinated.

* We believe that one test upon which the reporters relied was the success of revaccination, which was said to be greater in youth and adult age than at any other period. Upon this we shall have some remarks to make hereafter.

## Medical Intelligence.

### ROYAL COLLEGE OF CHEMISTRY.

On Thursday, February 12th, his Royal Highness, Prince Albert, visited the Royal College of Chemistry. He was received by Professor Hoffman, Sir James Clark, Professor Brande, and other Members of the Council.

His Royal Highness first inspected the temporary Laboratories in George Street, Hanover Square; and the various processes then in operation were explained to him by Professor Hoffman. Among these may be enumerated the rectification of naphthaline, —the method of conducting the analysis of organic substances,—with the processes for the detection of arsenic, antimony, iron, and copper, &c. There were also exhibited various interesting specimens of organic compounds prepared by the students under the superintendence of Professor Hoffman, including aniline, caffeine, murexide, coccinellin, &c. His Royal Highness appeared to take great interest in the subject of Chemistry, and expressed his satisfactiou at the manner in which the Council were carrying out the great objects of the College, in affording every facility for experimental research. The Prince afterwards presided at the Council, at which were present a large number of members, including many noblemen well known for their patronage of science.

His Royal Highness spent about two hours in inspecting the laboratories and the College. On his departure, Lord Palmerston having taken the Chair, it was moved by Viscount Newry and Morne, seconded by Viscount Ebrington, and resolved unanimously, "That the thanks of the Council be given to His Royal Highness Prince Albert, the President, for his kindness in presiding at the meeting of the Council this day, and for his handsome donation of £100 to the Building Fund: and that Sir James Clark be requested to communicate the same to His Royal Highness."

This is the second donation of £100 which has been made by His Royal Highness to the funds of the College since its foundation.

### MIDDLESEX HOSPITAL.

Mr. Shedden, Secretary to the Middlesex Hospital, has written to inform us that the notice respecting Mr. Tuson, inserted at p. 163, did not emanate from the Weekly Board. On referring to the paragraph, we

find it stated that it was forwarded to us by the *medical officers*. We have since heard, on good authority, that the resolution was adopted unanimously by the lecturers of the Middlesex Hospital (five of them being officers of the hospital), and that Mr. C. De Morgan, Assistant-Surgeon, and Lecturer on Anatomy, acted as Secretary on the occasion.

## Reviews.

*The Nature and Treatment of Gout.* By William Henry Robertson, M.D. Physician to the Buxton Bath Charity. 8vo. pp. 372. London: Churchill, 1845.

Recent inquiries into the nature of Gout and Rheumatism have been carried sufficiently far to render it very apparent why the true pathology of these two diseases has remained obscure for so many ages, and continues, even at this moment, to be very imperfectly and vaguely conjectured. Modern experiment has gone far to prove the fact—which ancient speculation hesitatingly suggested—that each of these diseases has its origin in a vitiated condition of the animal fluids—and it is evident that to detect the precise nature of the changes which attend such a state was a task which the rude experiments of the ancients could never, by any possibility, have achieved, and which our present limited knowledge of animal chemistry and of vital laws is scarcely sufficient to accomplish.

It is perfectly true, that we are now able to distinguish, with tolerable accuracy, the relative proportions of the several constituents of the fluids after their removal from the body, and to detect, by satisfactory tests, the existence of various noxious chemical agents which are liable to be present in them;—but still these are, at best, but coarse and imperfect means of investigation, and they are very far indeed from explaining the true condition of the fluids when circulating through the living body—where infinite varieties and degrees of combination and separation of their constituents, with many other processes the nature of which is at present wholly unknown to us, are doubtless continually taking place. A chemical analysis of the blood, although it may prove a great deal, is, at best, but a rude and uncertain means of investigating vital actions. The mere act of removing blood from the body, and exposing it to the air, may probably so alter the condition of that fluid as to render the portion under examination no longer essentially similar to the fluid which is still flowing through the patient's system; and the employment of the ordinary means of chemical examination is evidently wholly inadequate to determine the precise state in which the fluid existed while still in a vitalized condition.

Still, the chemical analysis of the fluids in disease has done much, and may still do far more, in establishing many new and valuable *suggestive* facts in elucidation of doubtful pathological questions; and it is to be regretted that such courses of investigation have not hitherto been pursued upon a more extended scale, and with greater perseverance. We have no doubt that a record of the chemical examination of the blood, urine, and perspiration in a hundred cases of acute rheumatism, and of the two former fluids in a like number of instances of gout,—together with a minute account of the state of any effused fluids, &c. which might be found after death in a number of fatal instances, would tend more to dissipate the uncertainty which has hitherto involved the pathology of these diseases, than would all the theoretical speculations upon the subject that ever have been, or ever may be written.

At present, the knowledge gained by pathologists with regard to the chemical and vital condition of the fluids in gout and rheumatism merely affords sufficient light to render the darkness of their ignorance visible—to point out the necessity for further investigation, and to indicate the direction in which that investigation should be pursued.

In the preface of the work before us, the author justly remarks that the great advances in chemistry and its collateral sciences might alone have justified the laying before the profession a new work on a disease so intimately connected with a humoral—it may perhaps hereafter be written, a chemical, pathology, had not his practice afforded him unusually large opportunities of observing and treating this disease; and we think he has certainly succeeded not only in placing together, to the best advantage,

the chemical facts, illustrative of the pathology of gout, which have of late years been adduced, but also in giving a very complete and useful general history of the disease from his own observation. The work is evidently the result of considerable practical acquaintance with gout in its various forms; and, although but few very novel facts are announced in its pages, very few particulars of importance have been omitted, and we shall not hesitate to say that (setting aside one or two faults, among which a disposition to dwell with tedious prolixity upon many of the arguments, is the most salient), Dr. Robertson's work is the most complete monograph on the subject of gout with which we are acquainted. The remaining portion of our notice of the work must be devoted to a few selections from its pages.

Dr. Robertson very justly argues against the common opinion that an attack of gout generally leaves little or no injurious impression upon the system. He observes:—

"Although the occurrence of the gouty paroxysm often relieves or removes previously existing derangements, it does not lessen their liability to return. Gout is not, as was once supposed, a direct means of diminishing the tendency to other diseases. On the contrary, by disturbing the equilibrium of the circulation, diminishing the tone of the capillaries, deranging the nervous system, and interfering with, or impairing its influence on the secreting and excreting organs, gout becomes an important agent in increasing the morbid tendencies of the system, aiding other causes of disease, and lessening the probabilities of life. The immediate relief afforded to deranged states of organs by a paroxysm of gout must not be confounded with its ultimate consequences. Gout can only remove or diminish pre-existing derangements, by its derivating or evacuating action; and there could hardly be a more uncertain and severe counter-irritant, or a more hazardous evacuant, than a fit of gout" (p. 5).

His theory of the immediate causes of the gouty paroxysm is ingenious; and appears to be, to say the least, more plausible than any other hypothesis that has been advanced upon the subject. He remarks:—

"Whatever may be the cause of the deposition of lithic acid in the fibrous tissue, it is not improbable that the irritation of the capillaries of the part, resulting from the throwing down of crystalline particles of lithic acid, or of its compounds with alkali, may be the true cause of gouty inflammation, and may help to explain many of the phenomena and peculiarities of the disease. The long period generally, and perhaps always necessary, for the formation of the gouty habit; the instant aggravation of the local derangement, and immediate development of inflammatory action, which follows the action of such exciting causes as would add suddenly to the amount of deposition, and so increase the degree of irritation to a point inconsistent with the normal discharge of the functions of the part,—such as the formation, or the increased production, of lactic acid, consequent upon a debauch, or an injury from a blow or sprain; the various degrees of gouty inflammation; the rapidity with which the inflammatory action passes from one part to another; the degree to which the disease may be modified; its manifestation retarded, its violence moderated, and its duration shortened by alkaline medicines, by diaphoretics, purgatives, and other evacuants, and by carefully regulated diet; and, in short, all the phenomena of the disease, do probably countenance the hypothesis, that the deposition of lithic acid always attends a fit of gout, and perhaps always precedes it" (pp. 78-9).

Dr. Robertson lays great stress upon the means of diagnosis between gout and rheumatism in their various forms; his remarks may be read with advantage. The author, although in the habit of employing colchicum in gout and rheumatism, denies to it any specific power in controlling the constitutional tendencies of those diseases; and is at great pains to show the manner in which an incautious use of the medicine may be, in reality, followed by serious modifications and aggravation of the disease which it is intended to remove.

"It is a mistake, in toto," he observes, "to contend that colchicum can do more than influence the fibrous inflammation of gout; that, however given, it can prevent the attacks of the disease, or lessen, in any degree, the amount of its results. Colchicum may arrest or diminish the violence of the acute inflammation; but, in the same proportion, it renders the disease irregular, or chronic, or masked, and ready to manifest itself at the first opportunity, and in the readiest way; and, in the same proportion, does it possibly produce a greater evil than that which it remedies, and involve a greater eventual consequence, and a larger amount of crippling deposit than would otherwise be produced. Colchicum is more of a specific for

rheumatism, because rheumatism is more a simple inflammation," (?) "to relieve which is to cure the disease;" (?) "whereas, to relieve the inflammation of gout, is by no means, necessarily, to cure gout, but, on the contrary, may be directly to increase it. The worst cases of gouty deposition and gouty crippling, and of irregular and chronic gout, are distinctly traceable to the use or the abuse of colchicum. Gouty concretions are seldom found when colchicum, or some similar sedative, has not been taken; and, however given, no matter at what stage, or after what preliminary means, or how long continued, so as to influence the whole phenomena of its paroxysm and its sequela,—the effect of colchicum on gout is to increase the probability of deposition and its amount, or to induce a gout that is irregular or chronic in its character; admitting, of course, as must be done, that the degree of this risk, or, we may say, this certainty, is diminished by the use of judicious preliminary means, and by continuing the use of colchicum, when once begun, until the paroxysm and its sequela have apparently passed away.

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*Guy's Hospital Reports. Second Series.* No. VI. October 1845. Edited by G. H. Barlow, M.D., Edward Cock, Edmund L. Birkett, M.B.; J. H. Browne, M.D., and A. Poland. London: Highley.

[Continued from page 141.]

*Trial for Murder, by Poisoning with Arsenic, Berkshire Lent Assizes,* 1845. *Post-Mortem Appearances: Chemical Analysis; Detection of the Poison as Sulphuret, twenty-eight days after Interment.* By Alfred S. Taylor.

Reports of this nature are calculated to prove useful to the profession, as conveying a distinct idea of the precise manner in which the knowledge of the practical toxicologist and medical jurist has to be employed in the detection and disclosure of crime. No systematic work on medical jurisprudence can altogether prepare a medical witness for the various intricacies which he will have to unravel in particular cases that may be submitted to his investigation, or render him aware of the precise character of the wily and perplexing questions, which will be put to him by counsel, while under examination. It has always been subject of remark that medical witnesses seldom shine when submitted to cross-examination in legal cases:—the reason of this is evident; the surgeon is usually a man of thought and of action rather than of expression, and his habits of investigation are aimed directly and simply to the discovery of truth; thus constituted, he can scarcely fail to succumb in a contest, where toils of the most subtle and ingenious nature are laid to "entangle him in his talk," and where the most vivid eloquence, and the most refined casuistry, are employed to subvert his declarations and to invalidate his opinions. It is therefore necessary that the medical witness should enter the court with his mind strongly prepared, and his faculties firmly strung, for the ordeal which he is about to undergo; with his evidence fully and clearly arranged; with a fair general knowledge of the character of the questions which will be put to him; and with a consciousness that, in the exposition of his facts, he will have to cope with vigilant and acute opponents, who, should he allow himself to be drawn into the slightest statement or expression which could be proved to be unguarded or incorrect, will not hesitate to crush him—evidence, judgment, and character—at a single blow. In a preparation for this kind of contest, the perusal of reports like those which Mr. Taylor has from time to time published, will, we conceive, be found particularly useful, as conveying an idea of the kind of "catch questions" which are likely to be put to the medical witness, and of the ingenious style of defence which counsel are in the habit of adopting, even where the medical and other evidence against the prisoner are perfectly clear. In illustration of these remarks, we shall quote the following passages from Mr. Taylor's paper:—

"It may be as well to mention that the points on which the counsel for the defence dwelt, were:—1. The power of judging from post-mortem appearances so long after death" (thirty days after death, and twenty-eight days after interment); "but it was stated that arsenic had, in this respect, remarkably antiseptic properties. That evidence of this kind, however, might not rest solely on description, an accurate drawing of the stomach, as it appeared at the time of the analysis, was made by Mr. Hurst, of Guy's Hospital, and some precipitated sesquisulphuret of arsenic, mixed with gum, was employed to give the correct appearance of the yellow patch found near the greater curvature. 2. It was a question why this

child should not have died sooner, had its death been caused by arsenic" (the poison was supposed to have been taken at dinner on the 23d—probably at the hour of noon: the symptoms appeared on the afternoon of the same day, about half an hour after dinner, and death took place on the 26th, about the middle of the day. As far as could be ascertained, the whole duration of the illness was about forty-eight hours). "To this it was replied, that the period at which death took place from arsenic was subject to great variation according to circumstances; that some persons died within a few hours, while others lingered for several days; that, in short, no definite rule could be laid down on this point. 3. Whether arsenic was not a natural or *normal* constituent of the human body, and whether this was not the opinion of the celebrated toxicologist, Orfila? It was stated, in answer, that such an opinion was not held by chemists who had experimented on the subject, and that Orfila had himself been obliged to abandon it, as his experiments, performed before the Institute, in 1841, had entirely failed in demonstrating its existence in the healthy human body. The fact that a question of this kind was put, shows how long an error in medical jurisprudence may continue to find circulation among lawyers after it has been rejected by the medical profession. The question, however, was here entirely misplaced, because the arsenic was found in a *solid layer*, lying on the surface of the mucous membrane of the stomach, and was not extracted by solution, incineration, or carbonization. The fallacy involved in the question was immediately displayed to the jury by the learned judge asking, whether it was medically possible that any person could spontaneously generate within his stomach *five grains* of solid arsenic!" (the total quantity of arsenic found in the stomach was estimated at from five to six grains.) "4. The last question turned upon the validity of the tests for the poison—Whether there was not some kind of objection to every known test for arsenic, although the same objection might not apply to all the tests? This was an ingenious question. The reply given was, that no single substance, nor any mixture of substances, was known in chemistry which would give all the reactions for arsenic that had been obtained in this case."

*Case of Ossification and Dislocation of the Crystalline Lens; with Remarks.* By JOHN F. FRANCE.

THIS case, together with the observations appended to it by the narrator, will be considered valuable by all who are interested in the subject of ophthalmic disease. The patient was a groom, 44 years of age, in whom the sight of the right eye had been destroyed by the inflammation consequent upon a blow received twenty years before. The eye, on the patient's admission, presented a nebulous opacity at the lower and temporal portion of the cornea; and, at the bottom of the anterior portion, occupying about three-fourths of the cavity, was seen an oblong light straw-coloured opaque body; the lens, separated by a space from the cornea, but in contact with the iris, and allowing a portion of that septum and of the pupil to appear above its upper margin. The eye, as already described, was perfectly amaurotic. Mr. Morgan performed extraction by an external and inferior section of the cornea, with the aid of a curette to seize the lens. The case subsequently did well. The lens proved, on examination, to be, in chief part, hard and calcareous, resisting compression between the finger and thumb, or puncture with a knife; and producing, on its external softer laminæ being removed, a tinkling sound, when agitated from side to side in a phial. Its hue was a very light straw-colour, approaching white. Dr. Rees analysed the morbid product, and found in 0·5 gr. 0·3 of carbonate and phosphate of lime, cemented by 0·2 gr. of animal matter. The weight of the whole dried, was about 0·59 gr., which was less than might have been anticipated from the bulk of the concretion when recent.

*Case of Popliteal Aneurism, and of Ligature of the Femoral Artery.* By JOHN NOTTINGHAM, M.D. Liverpool.

THE particulars of this case are very minutely given, but we do not find that they convey any particularly new or important facts. The interest of the details would have been enhanced by judicious curtailment.

*On the Pathology and Treatment of Fracture of the Neck of the Thigh Bone.* By BRANSBY B. COOPER, F.R.S.

MR. COOPER strongly supports the argument maintained by Sir A. Cooper, that nature is opposed to the osseous reunion of the neck of the thigh bone, when fractured within the capsular ligament, "and that the attempt is never made after the fractured portions have been once separated; but only in

such cases as those, in which the periosteum of the neck has not been torn through, so that the two portions remain in close apposition, and that then they only unite by a very slow process similar to that which occurs in the reparation of fracture of the bones of the head." "Did the same laws regulate the union of the articular extremity of a bone which complete the restoration of a broken shaft, a joint would necessarily be destroyed whenever one of the bones entering into its composition was the subject of fracture, as the formation of the provisional callus would necessarily prevent every motion between the bones, and lead to the destruction of the various structures of the articulation." Mr. Cooper is willing to admit that there are various mechanical causes which tend to prevent the union of the fracture in these cases, but he attaches comparatively little importance to them, as he considers that, could they be by any means overcome, there still remain other causes which would prevent bony union. The author considers that among the chief vital causes preventing bony union, are:—

"First—The low condition of the reparative powers, generally consequent upon the advanced period of life at which this accident occurs. Secondly, the remarkable changes peculiar to the hip-joint from age, especially to the portion of the femur implicated in this injury. Thirdly, The peculiarities of original structure."

These vital causes he believes to be powerful in their operation inversely to the order in which he has named them, the last being the strongest. The author adduces some interesting facts derived from examinations made by himself and Mr. Toynbee, relative to the vascular supply of the epiphyses, which lead him to infer that these parts are, from the peculiar distribution of their blood-vessels, in a different condition, as respects the power of generating callus, from the rest of the osseous system. Mr. Cooper was desirous to ascertain whether any change, or, if any, what change, took place in the chemical composition of the neck of the thigh-bone in old age, which might prove sufficient to account for its tendency to break at this period of life:—for this purpose a set of chemical experiments were made, which have led to very interesting results.

"On inspecting the general average of these analyses, it will be seen that, contrary to the usually received opinion, a remarkable deficiency of bone-earth occurs in the neck of the femur in old age, whenever it has been the subject of fracture."

It also appears that the deficiency of bone-earth is greater in those cases where fracture occurs than in other instances. The following is the general average of the results of the experiments.

| | | |
|---|---|---|
| I. | Fractured neck of femur yielded per cent. of bone-earth | 23·9 |
| | Shafts of same bones . | 50·1 |
| II. | Unfractured neck of old bone not buried . . . | 33·5 |
| | Shafts of same bone . | 55·5 |
| III. | Unfractured neck of unburied bone of middle-aged person . . . . | 50·1 |
| | Shaft of same bone . | 56·7 |
| IV. | Unfractured neck of old bones very dry or exhumed . | 61·4 |
| | Shaft of same bones . | 64·9 |

"From this it appears that, although the neck of middle-aged bone contains 50 per cent. of bone-earth, yet the recent neck of the old bone contains only 31 per cent.; whereas the difference between the shafts is by no means so great, being 56 for middle-aged bone, and 53 for old bone. In all cases, however, the shafts contain more bone-earth than the neck."

The author also proves, by the results of analyses, that all epiphyses, at every period of life, contain less earthy matter than their corresponding shafts. He concludes then, that—

"It is the result of organisation which leads to the ligamentous union in these cases, and it is not the application of the most complicated mechanical contrivance which can lead to ossification. The treatment, therefore, of these accidents is to be regulated and modified by the consideration of the age of the patient, and, in the author's opinion, under the conviction of the uselessness of any attempt to produce bony deposition. The advanced age at which the accident so generally occurs precludes the propriety of the application of any apparatus, which, even if it could lead to union, would necessarily confine the patient for two or three months to bed; and, for the same period, subject him to a violent extension of the limb, which could not but be highly injurious to the health of the individual."

We recommend a thorough perusal of this important memoir. We must reserve the remaining papers in this number of the Reports for notice upon a future occasion.

# Selections from British and Foreign Journals.

## TOXICOLOGY.

### ON THE DETECTION OF ARSENIC IN THE TISSUES OF THE BODY, AND ITS SEPARATION FROM ANTIMONY.

CASE I.—Two married couples, of the names of Foucaux and Brument, lived near each other in the commune of Normanville. The husband of the former and the wife of the latter died suddenly within a few days of each other. The bodies were exhumed, and on a chemical analysis being made, arsenic and antimony were detected—the arsenic being in much the larger proportion. The result left no doubt that a double poisoning had taken place, but the medical witnesses expressed their great surprise at the co-existence of these two substances in the bodies, when they had ascertained that no antimonial preparations whatever had been given during the treatment. The difficulty, however, was removed when it came out at the trial that both of the accused parties had administered to the deceased a preparation known as the "*Médécine Leroy*," which is composed of antimony, senna, and white wine, vulgarly used for counteracting the effects of poison. Two questions, then, arose: 1. Whether antimonial preparations contain arsenic; and, 2, if so, whether the arsenic found in the bodies of the deceased, might not have been thus accidentally introduced.

In answer to these questions, it was admitted that traces of arsenic commonly exist in preparations of antimony; but that pharmaceutists are bound to determine the proportion of arsenic present before they vend them to the public, or mix them with other medicines. Supposing that arsenic was contained in the antimonial medicine taken by the deceased, it would only be in minute traces, whereas the analysis showed that the quantity of arsenic was large, and that of antimony small. This explanation, together with the evidence of the medical men who attended the deceased, established the fact of poisoning.

No mention is made in the report of the processes for distinguishing antimonial from arsenical deposits, as obtained by Marsh's test, although this case shows how necessary it is to have some easy and certain method of distinguishing them from each other.

One other circumstance also demands attention. Orfila has established, by experiments on animals, that during life antimony is much more speedily eliminated from the body than arsenic. Therefore it might happen that these two substances had been taken in equal quantities, and yet chemical analysis, after a given time, would indicate the presence of a smaller quantity of antimony than arsenic. An erroneous conclusion might be drawn, in ignorance of this physiological fact, and a mistake of this kind might be, in some instances, of importance. —*Gazette Médicale*, Janvier 1846.

*** The conclusion that arsenic had been taken would not be invalidated by the fact that the antimony had been found in smaller quantity, although, *e converso*, it might be a question whether, when the arsenic was in very small quantity, its presence might not be ascribed to that which is adventitiously contained in some antimonial preparations, such as kermes. With a poisonous dose of arsenic in his stomach, a man is not likely to live sufficiently long to make any material difference in the proportion of these two substances by the simple effect of elimination.

### ARSENIC IN SOOT. TRANSMISSION OF ARSENIC FROM THE MOTHER TO THE FŒTUS IN UTERO.

MM. Mareska and Lados have made the discovery that the soot of ordinary coal commonly contains arsenic. The quantity, however, is so small that they estimate it at not more than the six-hundredth of a grain in four pounds! The arsenic is most probably derived from the iron pyrites contained in coal; it is well known that most specimens of the sulphuret of iron contain arsenic in the state of arseniuret. In one instance they found the arsenic in soot in much larger proportion, but attributed this increase above the average to some extraneous source.

In the case of a female who was poisoned by arsenic while in the fourth month of her pregnancy, they found traces of arsenic in the fœtus, uterus, and placenta, the latter organ containing a larger proportion than the fœtus. No appreciable trace of the poison could, however, be detected in the liquor amnii. — *Gazette des Hôpitaux*, Janvier 1846.

### STATISTICS OF HOSPITALS, AND THE GENERAL MORTALITY OF THE PRINCIPAL CITIES OF EUROPE.

| | Population. | No. of beds in hospitals. | Mortality. Annual. | Daily. |
|---|---|---|---|---|
| London . | 2,000,000 | 3,000 | 45,000 | 123 |
| Paris . . | 900,000 | 10,000 | 21,900 | 60 |
| Vienna . | 330,000 | 5,700 | 17,000 | 46 |
| Berlin . | 365,000 | 3,000 | 9,000 | 25 |
| Petersburgh | 476,000 | 6,000 | 11,000 | 30 |
| Warsaw . | 150,000 | 4,000 | —— | — |

*** We extract the above from a late number of the Gazette des Hôpitaux. It will be seen, according to this estimate, that Paris, with less than one-half of the population of

London, provides hospital accommodation for three times the number of sick poor! We believe the statement to be altogether inaccurate. There are *three* London hospitals which will receive more than half the number assigned in the table to the whole metropolis. We believe, too, that in the Parisian estimate receptacles for the aged and infirm poor are included among hospitals, as the Salpètrière, for example, while the numerous infirmaries for the poor are excluded in the London estimates. If the design of the statistician is to make it appear that there is greater charity manifested to the poor in continental cities than in this metropolis, we think he has wholly failed. There may be a greater amount of sickness, which would render proportionably larger receptacles for the sick necessary but when one London hospita on ly relieves abou 1 70,000 in and out-patients yearly, t city has no reason to fear a comparison with those on the continent.

## Correspondence.

### MEDICAL DISCIPLINE IS MEDICAL REFORM —THE POWER OF EXPULSION.

Sir,—The leading article of the London Medical Gazette for Jan. 30, 1846, is at once the most practical, and consequently the most important, in the whole career of that well-conducted journal; and it is to be hoped that the editors will continue to enforce the attention of the medical corporations to this tangible and vital object. The basis of all medical discipline and improvement, is the power of expulsion from the medical corporations: this, indeed, is a glimmering of light amidst the chaos of medical reform. Well does the writer of that able article point out the difference in the relative position of law and physic, and demonstrate the superior privileges of the former profession. The one has its respectability secured by such stringent and honest enactments, that it is impossible for a notorious delinquent to remain within its pale. In the other, however, we may blush at the comparison. The want of medical discipline, and the low state of ethics in this country, have attracted the attention of highly educated foreigners. These things are said to be better managed in France and Germany, in which countries medical etiquette, when broken and violated, is adjudicated by reference to courts of honour provided by their medical codes. As to the profession in London, Professor Marx of Göttingen, in his Recollections of England in 1841, observes, "Quiet merit, unless very great, is scarcely estimated. But the man who talks about his cures, makes himself conspicuous every where, and, in addition, has cunning enough to carry out his schemes, is considered by the public to be a practical man." The learned German was initiated into the way of getting on in London: *a physician*, he was told, *must be a boasting, ubiquitous bustling, intriguing fellow to get on fast, or indeed at all.* (Brit. and For. Med. Rev., Jan. 1843.) Truth is no libel: our hopes &c. are the exception, not the rule.

With regard to the law, its members rarely quarrel; jealousy between seniors and juniors rarely disturb the more even tenor o their way. This may in some degree be attributed to the lawyer's path being directed by rigid precedent, while the public eye scarcely fixed upon the machinery or manner by which the end to be accomplished is attained. Not so the medical profession. Those who practise it are in constant personal contact with the public: this is the only source of their fees, and every error incidental to an uncertain art is readily seized upon as a fulcrum for the removal of a rival from the field of competition. In this the sensitive mind of the gentleman is swamped, and his talent rendered nugatory, by the adroit manœuvres of one more cunning and less honest than himself. Such has always been the state of the profession in this country. In the middle of the last century, Vicesimus Knox observes to a young physician, "For your knowledge of anatomy and physiology men of talent may respect you; but your fortune must be made by old women and fools." Whilst the great lexicographer, although he eulogizes the learning and exemplary kind-heartedness of physicians, says, "Those that employ them know not their excellence: those that reject them know not their deficiency."

Nothing can tend to elevate the moral character of the profession, but the stern and impartial exercise of the power of expulsion vested in the corporations, combined with the establishment of courts of honour for the regulation of professional intercourse and the settlement of disputes. Notorious delinquents would then be brought to the bar of professional justice, and the expelled and degraded member, in spite of the popular manners and obsequiousness advocated by Dr. Young (Med. Lit.), would find his just punishment in the withdrawal of every means of professional communion:—*such communion or intercourse, as in the law, being absolutely prohibited.*

In fine, leaving to a more enlightened legislature the construction of a national code, we surely may succeed, without the conflict of antagonist corporations, in carrying the only important points in which there can be no difference of opinion as to their utility and absolute necessity—points, too, which would have been secured by each of

the four medical bills, and which would require no complex plan to embody them speedily as *bonâ fide* acts of the legislature. These points are—

1st. A registration of all qualified medical practitioners.

2d. A power to be vested in the charter of every corporate body, of expelling members guilty of flagrant misconduct.

By the first, might be secured to every graduate or licentiate of our medical corporations an equal right to practise his branch of the profession throughout the empire.

By the second, a power of regulating medical practice and medical ethics could be provided; and the profession, keeping pace with the improvements in law and divinity, would become thereby, what it is not at present, a society of gentlemen. This, indeed, would be the only means of generating a genuine—a proper "esprit de corps."

In every city and town, the constant squabbles and disputes between the rival members of an overstocked profession are not to be concealed. Men calling themselves gentlemen are daily guilty of such unwarrantable acts in their intercourse with each other, as would render the lawyer or clergyman, equally culpable, amenable to the interposition of the tribunals which regulate their better disciplined professions; while, in the Army or Navy, a homœopathic fraction of the same wrangling and backbiting which happens every day in every grade of medical practice, would be referred for the adjudication of a court of honour.

AN OLD CORRESPONDENT.

## ON THE PERIOD AT WHICH HÆMORRHAGE FROM SLOUGHING OCCURS AFTER DELIVERY.

SIR,—In the last week's number of the MEDICAL GAZETTE, I find a communication from Mr. Adams, of Banchory, on floodings after delivery. Perhaps, sir, you will allow me the space in your valuable journal to remark upon the part of that paper relating to hæmorrhage after delivery, when arising from sloughing, as regards the period of its occurrence, and as bearing also upon another interesting point in obstetricy, the treatment of placenta prævia.

Mr. Adams has referred to a case of sloughing of the os uteri, as reported by Dr. Collins, and very appositely to another, which occurred in 1819 to the late Professor Davis, (Obstetric Medicine, 4to. p. 1040), in consultation with the late Drs. Sims and John Powell. Now in both these instances the hæmorrhage, and the separation of the slough which gave rise to it, took place on the *fifth* day from delivery.

In the latter case the late Professor referred the unfortunate event to the pressure of his hand upon the boundary tissue of the uterine orifice, during its introduction into the uterus, under the complication of unavoidable hæmorrhage. Annually, from the period of its occurrence (1819), being the last and only occasion of his adoption of the practice, (then orthodox), he referred to it in his lectures during two-and-twenty years, as a strong argument *against* the treatment of *immediate delivery* (which had then been propounded by the late Dr. Rigby, for all cases of unavoidable hæmorrhage), and *in favour* of that of *plugging the vagina*, as a security to the patient against flooding; until, indeed, the delivery might be safely undertaken without the least risk of laceration or contusion of tissue: the lesson conveyed by that case was a truly valuable one, and became, I have no doubt, deeply impressed as it was upon the minds of all his hearers, the means of rescuing many an important life.

I cannot but regret, however, to find from reports of cases, that the dangerous practice, which was, I understand, abandoned by the late Dr. Rigby, at a subsequent period of his life, is not yet entirely relinquished; and hence, in all probability, some portion of the mortality attendant upon the treatment of placenta prævia, alluded to by Professor Simpson in the recent controversy.

As respects the earliest period when hæmorrhage may occur after delivery, as an event of sloughing, the few records on the subject scarcely assist us in arriving at an opinion. Let me remind Mr. Adams, however, that in the two cases above referred to, the separation of the slough, and the resulting hæmorrhage, did not follow upon the labour until the *fifth* day. Sloughs, the consequence of protracted or mismanaged labours, in reported cases, appear to be thrown off very rarely before the fifth day, and generally afterwards thence to the *twelfth* day: much of course must depend upon the extent of the mischief incurred. Happily these results are becoming less and less frequent than formerly, from the better understanding now possessed of the mechanism of the function of parturition, and its medical management.

With regard to hæmorrhage setting in *immediately* after delivery, I would beg to submit, that it does not arise from *sloughing*. Laceration, indeed, might occasion it; or, without any such lesion, the flow of blood might be furnished from the vessels of the uterus, as generally happens, as an effect of relaxation of its muscular fibres; or of that condition of the uterine circulation supposed in the theory which Mr. Adams advocates. From the very brief allusion made to the case which fell under his own cognisance, it cannot well be affirmed which of the above two sources furnished the flooding.

In the case of flooding which came under my own observation, in the instance of Mr. Eyre's patient (Lancet, Nov. 8th, 1845, p. 501), there was no laceration of tissue, and no inflammation, much less its effects, gangrene and sloughing, *at any period*, as Mr. Adams suspects. The patient's labour was not permitted to be of such a length as to expose her to such a result. The flooding arose evidently from relaxation of the uterus. The womb was felt through the abdominal integuments flabby and large, and in proportion to the contraction of the organ, brought about by grasping pressure and cold applications, conjointly employed by my friend, Mr. Eyre and myself, did the hæmorrhage abate, and finally cease. I delivered the child by the crotchet at half-past 6 A.M. Monday. The head was not obstructed in its progress, until its arrival at the pelvic outlet, at half-past one, A.M. (Monday). The brownish discharge, of a peculiar, offensive, but not putrid odour, which presented itself during the latter part of the case, is a morbid secretion from the mucous surfaces, not unfrequently thrown out under a protracted labour, as those who are observant well know, and not in any way related to sloughing. For the details of the case, which was an instance of placenta prævia (partial), requiring plugging of the vagina, after the spontaneous escape of the waters, I must refer to my report. So far was the patient's convalescence favourable, that I only visited her twice after delivery, once on the day after, and again shortly prior to her going into the country, whence, I was afterwards informed by Mr. Eyre, she returned quite well.—I remain, Sir,

Yours very faithfully,

J. HALL DAVIS, M.D.

Russell-Place, Fitzroy Square,
February 2, 1846.

### MR. ADAMS'S THEORY OF UTERINE HÆMORRHAGE.

SIR,—I have read with some interest a paper on Uterine Hæmorrhage, by Mr. F. Adams, of Banchory, contained in a recent number of your journal. May I request him to explain on his hypothesis, the cause of hæmorrhage prior to delivery; hæmorrhage from a retention of a portion of the placenta, and the favourable results usually supervening on its extraction, and also the causes of the hæmorrhage in placenta prævia?

I am, Sir,

Your obedient servant,

J. M. WADDY, M.D. (Univ. Lond.)
Senior Medical Officer of the Birmingham Lying-in-Hospital, &c.

Birmingham, Feb. 6, 1846.

## Proceedings of Societies.

### ROYAL MEDICAL & CHIRURGICAL SOCIETY.

January 13, 1836.

DR. CHAMBERS, PRESIDENT.

*Two Cases of Disease of the Brain following the Application of a Ligature to the Carotid Artery.* By JOHN P. VINCENT, Esq., Surgeon to St. Bartholomew's Hospital.

THE author states that the two following cases appear to possess an interest that entitles them to be placed under the consideration of the Society.

James M——, aged 48, in July 1829, was admitted into St. Bartholomew's Hospital with an aneurismal tumor under the right ear. It had been forming eight months, and was about the size of a small orange. On July 18th, the author tied the common carotid artery. In about an hour and a half after the operation, the patient was discovered to be slightly convulsed on the right side. He afterwards sunk into a state of stupor. He was bled to thirty ounces. After this he became more sensible. He had twitchings of the right side. He was again bled during this and the two succeeding days, and altogether lost eighty-four ounces. His left side became paralyzed; his urine and fæces passed off involuntarily; he swallowed with difficulty; and on the 24th he died. On examination of the body, it appeared that the veins of the right side of the brain were not so filled as on the left. The substance of the brain on the right side was quite soft and cream-like. There was no deposition of blood in any part, but a little more serum in the ventricles than usual.

On the 9th of April, 1845, Wm. B——, aged 28, was admitted into the hospital, having stumbled, a few hours previously, against a door whilst smoking a pipe, which penetrated the tongue anterior to the right tonsil. The patient felt a portion of the pipe in the wound, but was not able to remove it. There was some bleeding, which gradually subsided. The voice was husky. He complained of pain, which was increased on his attempting to swallow or to open his mouth. On introducing a probe into the wound, no foreign body could be detected. The parts around the wound were greally swollen. During the next five days the swelling gradually increased, and impeded deglutition. On the morning of the fifth day his breathing became difficult. On the 16th, hæmorrhage took place to the extent of twenty-four ounces, which was arrested by

pressure. The author was sent for, and fearing that if the pressure was remitted the hæmorrhage would prove fatal, he proceeded to tie the carotid artery. This could not be accomplished without much difficulty, arising from the swollen and sloughing state of the parts, and from the effusion of pus and blood, and also from the excessive restlessness of the patient. It was observed during the operation that the patient made violent efforts with his right side, but that he never moved the left extremities. During the night the left extremities were frequently convulsed. His pulse, which had been 132, sunk to 96. During the next two days the twitchings of the right side and paralysis of the left side continued. About midnight of the 18th, whilst coughing, about an ounce of arterial blood flowed from the nose and mouth, and from the wound in the neck. He was sensible. On the 21st a fit of coughing, with hæmorrhage, to the extent of two or three ounces, from his nose and mouth, terminated his existence.

*Examination of the body.*—The wound in the neck presented a sloughing appearance. At the bifurcation of the carotid, on the right side, there was a large and firm coagulum, in the middle of which was the extremity of the tobacco-pipe which had penetrated the artery at the point of division into external and internal carotids. The convolutions of the brain on the right side were flattened and softened. On dissecting the brain, irregular-shaped cavities, filled with ash-coloured effusion, with shreds and particles of a greenish hue, were discovered. One of these encroached on the corpus striatum.

The author adds, that if the portion of tobacco-pipe had been detected at the time the patient was brought to the hospital, and withdrawn from the wound, he must have died instantly from the gush of blood that would have taken place, as this body seemed to have plugged the artery. The author had understood that such a sudden fatal event has occurred uuder similar circumstances.

Dr. Copland remarked, that in most of the cases in which the carotid was tied, hemiplegia, or more partial palsy, ensued. He alluded to the great loss of blood which had taken place in the first case, and said that he should have been inclined to combat the symptoms with other remedies than the lancet.

Mr. Bransby Cooper thought the quantity of blood taken in the first case was excessive, but Mr. Vincent, no doubt, saw good reasons for this proceeding. In the second case, the patient died from the irritation kept up by the tobacco-pipe, and not from hæmorrhage, although twenty-five ounces of blood were lost from the wound in the common carotid, just at its division. He (Mr. Cooper) had tied the common carotid twice; once in a gentleman from Barbadoes, who suffered from an aneurismal tumor near the parotid gland; it was of little inconvenience to him, but he wished to be operated on. Sir B. Brodie recommended the proceeding, as the patient was about to return to a hot climate, where he would be subjected to arterial excitement. Before the operation, the patient was kept low, and blood to a moderate extent abstracted. The operation was followed by no ill consequences whatever; the patient making a complete recovery. In the second case, a ligature was applied to the common carotid for a wound of one of its branches inflicted in an attempt at suicide. The patient did well after the operation, which was followed by no cerebral symptoms, but expired at the end of three weeks from mental disturbance and irritation in the wound.

Dr. G. Burrows, in reference to the effect of large depletion in causing disorganization of the brain after ligature of the common carotid, stated, that the conclusion he had arrived at, after referring to a number of cases on record, was, that large bloodlettings, either before or after the operation, were not followed by paralysis. He alluded to several cases in which the artery had been secured, large losses of blood following or preceding the operation, in support of his view. In one of these instances, Mr. Preston, of Calcutta, tied the common carotid for the cure of epilepsy. Bloodletting was resorted to freely, both before and after the operation; there was subsequent paralysis, and for three months the patient did not suffer from epileptic attacks. In another instance, both the carotids were tied by Dr. Hohl, of Leipsic; the first operation was for aneurism of one side of the head, resulting from a fall, attended by much hæmorrhage. After the first operation, the patient became insensible and convulsed on the opposite side, but eventually recovered; aneurism, however, on the opposite side, presented itself, and the corresponding carotid was tied; no bad symptoms resulted, and the patient got well. It was remarkable that no bad symptoms ensued in those cases in which there was much hæmorrhage.

Dr. Copland observed, that there was only a word of difference between himself and the last speaker, and that was, the word *excessive*. Bleeding might be requisite to forty or fifty ounces, but not to eighty or ninety.

Mr. Bransby Cooper. And also the difference between loss of blood prior to and following the operation. In Dr. Burrows' cases, the bleeding might be considered as preparatory, as it occurred previous to the operation.

Dr. Snow said that the convulsive twitchings on the side of the body on which the carotid artery had been tied, in these two cases, showed that the operation produced disorder of the opposite side of the brain. The brain did not receive the atmospheric pressure on all sides, but chiefly through its bloodvessels; and it would seem that when one of the carotids was tied, in some cases, the increased quantity of blood flowing through the other arteries caused a congestion on the other side of the brain, proportional to the deficiency of blood on the side of the operation, and that this congestion was the cause of the twitchings in these two cases. He conceived it was for this congestion that the venesection was adopted in the first case, and of course, not for the paralysis of the other hemisphere, which resulted from its supply of blood having been cut off, and which caused the paralysis of the other side of the body.

Mr. H. C. Johnson mentioned two cases in which the common carotid had been ligatured, without the production of any cerebral disturbance.

Mr. Blizard Curling narrated the case of a sailor, who came under Mr. Hamilton, at the London Hospital, in consequence of a penetrating wound of the tongue, produced by a tobacco pipe. Mr. Hamilton probed the wound, and extracted a piece of a tobacco pipe, of four inches in length a gush of blood ensued, and the patient sunk. On examination it was found that the tobacco pipe had traversed the tongue obliquely, penetrated the throat below the left tonsil, and transfixed the jugular vein and carotid artery, to which wound it had acted as a plug, until its removal.

Mr. Solly recommended for the perusal of members, an article by Dr. Norman Chevers, in a late number of the Medical Gazette on the subject under discussion.

Mr. Arnott said that in cases where tobacco pipes had wounded even the internal carotid, and had been withdrawn, death did not necessarily result. This had been illustrated in a case which had been in the Middlesex Hospital some time since. Two of these pipe cases had come under his observation. A man smoking and drinking in a public house, went out to make water, and falling forwards, the extremity of his pipe was driven into his mouth. He was brought to the hospital, and it was ascertained that the pipe had penetrated under the tongue, from which situation it projected, and a piece of it, three inches long, was withdrawn. Tumefaction, considerable inflammation, and dyspnœa, came on, and the man expired. On examination, another piece of pipe, two inches in length, was discovered deep under the base of the tongue, and the lingual artery was ulcerated. In the second case, a man had met with a similar accident, but the tobacco pipe had passed into the velum, near the right tonsil. A bulging being observable at this point, the surgeon pushed the lancet into the swelling, but failed in detecting the foreign body. Some hours afterwards, the house surgeon, seeing some substance near the wound, drew it off with his forceps; it was a piece of tobacco pipe. A quart of blood immediately followed; but the hæmorrhage was promptly arrested by placing the thumb on the carotid. This was tied, but hæmorrhage recurred; and on the supposition of its being recurrent, it was attempted, but, of course, without success, to secure the internal carotid, above the injured part. The patient afterwards died, but not of hæmorrhage; and as the parts were in a state of decomposition, it was not clearly discoverable, but there was every reason to believe, that the wound was of the internal carotid. With regard to palsy resulting from the application of a ligature to the common carotid, in addition to the paper mentioned by Mr. Solly, another had been, ten years since, published in The Lancet, in which several cases in point were related. Mr. Arnott recollected one case in which the carotid was tied in consequence of hæmorrhage from a deep wound inflicted under the angle of the jaw; palsy occurred. An "abscess of the brain" was found after death. Individual experience of these cases was sufficient to enable us to speak confidently, but he had always considered that the disorganization of the brain which ensued in these cases, was not the result of excited action, but the consequence of cutting off a supply of so large a quantity of blood, and analogous to mortification, and other changes, which sometimes followed in a limb from tying its main artery, and therefore as not to be benefited by the large bleedings already alluded to and advocated by Mr. Cooper.

*Case of Congenital Cyanosis of forty years' standing, depending upon Patulous Foramen Ovale and Obstruction in the Pulmonary Artery.* By Robert J. Spitta, M. B., Lond., House Surgeon to St. George's Hospital. [Communicated by Prescott Hewett, Esq.]

The patient in this case, was a lady, aged forty, of diminutive stature, and pigeon-breasted, but without any positive deformity. She had cyanosis from birth, indicated by blueness of the cheeks, lip, and tongue. The heart's action was said to have been regular when at rest, but sudden exertion produced palpitation and dyspnœa. She suffered very much from cold. In March 1845, she was suddenly seized (while at rest) with dyspnœa and partial syncope accompanied by convulsions, and afterwards, with intense pain, referred to the epigastrium,

loins, and hypochondria. This condition lasted twenty-four hours, when she died. The patient had previously suffered from four serious attacks of a similar nature—in 1840, in May and September, 1844, and in February, 1845, six weeks before her death. In November, 1843, she had also anasarca of the abdomen and lower extremities, from which she completely recovered, and never afterwards became dropsical.

The author having only seen the patient casually, was unable to give any accurate information respecting the sounds of the heart. She had never suffered from rheumatism.

The following are the post-mortem appearances observed about the heart:—The organ was heavy and firm, and somewhat enlarged. The hypertrophy was chiefly on the right side, the right ventricle being as thick as the left, and the right auricle three times as thick as the left auricle. The foramen ovale was patulous—the opening about four lines in diameter. The auriculo-ventricular valves were thickened, but moveable: the aortic valves healthy. Above the semilunar valves of the pulmonary artery an adventitious membrane was stretched completely across; it was a line in thickness, and perforated in its centre, not by a circular foramen, but by a mere slit, with margins of a red colour, and fringed with fibrine of the blood. The three semilunar valves were thrown up, as they are naturally during the systole of the heart, and fixed in that position by the adhesion of (what would have been) their free borders to the adventitious membrane.

The author concludes with the following deductions:—

1. From the presence of cyanosis immediately after birth, and the absence of rheumatism during life, the adventitious membrane was a congenital malformation.

2. That the hypertrophy of the right side of the heart was the consequence of the obstruction in the pulmonary artery.

3. That as either an obstructed pulmonary artery, or a patulous foramen ovale, may exist separately without the blue disease, the cyanosis in this case was the result of the two lesions combined.

4. That the circulation of imperfectly oxygenated blood impaired no function so much as the formation of animal heat.

Dr. Gregory did not recollect having heard of a case in which cyanosis had existed for forty years, and inquired the experience of the members on that point.

Dr. Mayo related a case of cyanosis occurring suddenly which he had published some time since in the Medical Gazette.

Mr. Toynbee had noticed three distinct sets of cases in which the septum of the auricle was partially incomplete. In the first, the opening was of a valvular kind, and was situated at the circumference of the fossa ovalis. In the second, the opening or openings were not valvular, and were situated towards the centre of the fossa ovalis, and their edges were very thin. In the third class of cases, the orifices, like the second, were not valvular, were towards the middle of the fossa ovalis, and their edges somewhat roughened and thickened. The first class of cases was the most common, was congenital, and denominated "patescence of the foramen ovale." In the second class, the deficiency occurred during life, as the result of gradual atrophy of the septum. The third occurred also during life, and appeared to be the effect of inflammation terminating in ulceration. From which of these causes did the deficiency arise in the case before them? Death might have resulted from the sudden giving way of the septum, but in all such cases he believed immediate death was the result.

Dr. Spitta believed that in his case the opening was congenital, from the circumstance of there having been no ulceration, and from the general history of the case.

Dr. Cursham remarked that a patulous condition of the foramen ovale frequently existed in cases of phthisis. Mr. Abernethy had considered this condition to be the result of an effort to relieve the respiratory organs, by allowing the blood to circulate through both cavities of the heart, without passing through the lungs.

Mr. Prescott Hewett said, that, in Dr. Spitta's case, the opening was valvular. He mentioned a case in which there was a direct communication the size of a shilling between the two auricles; the edges of the opening were round, smooth, and thicker than the other portions of the septum. The heart was hypertrophied, and its cavities dilated; the two layers of pericardium were firmly and extensively adherent. This man had followed a laborious employment for years, but cyanosis had never developed itself.

Mr. Toynbee said that when a communication between the auricles took place slowly, even if by ulceration, no cyanosis took place; but if the communication were sudden and large, cyanosis resulted, and death ensued.

## SOUTH LONDON MEDICAL SOCIETY.

February 5th, 1846.

Edward Cock, Esq. in the Chair.

Mr. Hicks read a case of pericarditis, occurring in a stout woman, æt. 45, who had of late suffered much mental anxiety. The disease commenced with symptoms of acute articular rheumatism, with slight pain and catching in the region of the heart, but without pain or oppression of the chest; there was no dyspnœa; action of the heart was heard tumultuous, but no marked irregularity or burit

was audible. Viewing it as a case of incipient pericarditis in a weak constitution, local leeching, calomel and opium, and mixture containing colchicum, were ordered; under these the symptoms improved, and on the third day of treatment a slight rubbing sound was first detected towards the apex of the heart, most distinct just previous to each expiration; the mercurials and colchicum, on account of irritable bowels, were for a short time omitted, and mercurial frictions had recourse to, but on subsidence of the irritation, mercurials in milder forms, and combined with opiates, were continued; under this plan the rubbing sound, after extending for a few days, diminished, and symptoms improved, but the mercurials being again obliged to be omitted, opium was chiefly trusted to; the rubbing sound quite disappeared, and was supplanted by a bruit at each ventricular contraction; a short time after, while to all appearance better than usual, a fit of coughing came on, followed by the death of the patient, showing the great caution necessary in the prognosis of heart diseases. On post-mortem examination, the pericardium was attached to lungs on both sides by large patches of recent lymph, and internally was so adherent to the heart as to prevent separation; aortic valves contracted and thickened, the lining membrane of aorta being white near the heart, but beyond this as far as the diaphragm it was of a bright vermilion colour, not extending into its branches.

The author drew attention to the inability to affect the system with mercury, the cause of the fatal termination, and the absence of rubbing sound during the first three days.

Mr. Robinson remarked on the state of the woman's mind, as perhaps the cause of death, and which would account for inability to affect the system with mercury; considered death arose from three causes; viz. the state of mind, the pericardial, and the aortic disease; the mercury, from its effects on effusion, had been of use: had found its administration with iodine often produced ptyalism where it had failed of itself. In answer to Mr. Hicks, considered pericarditis more a disease of the earlier—internal disease of the heart of the later—periods of life; suggested whether a small venesection at the outset might not have prevented so much call on the system afterwards: when venesection is feared, tartar emetic may be used with advantage: had noticed greater debility attend inflammation of the pericardium than any other tissue.

Mr. Hicks alluded to the peculiar colour of the aorta, its situation and defined termination: the subserous tissue was transparent.

Dr. Birkett thought it a post-mortem appearance.

Dr. Chevers was inclined to believe that, in this case, the artery was inflamed, as, besides its discoloration, the lining membrane was raised by transparent deposits. He considered that nearly all the forms of reddening observed in the arterial system occur post-mortem, depending, for the most part, upon imbibition; but that the existence of inflammation, softening, or other changes in the arterial tissues, renders them particularly liable to become stained very shortly after death. In fatal cases of typhus, erysipelas, phlebitis, &c. he had found the heart and entire track of the arterial system deeply stained even before the body was totally devoid of heat. This evidently depends upon the low crasis of the blood, and deficient cohesion of the arterial tissues. He conceived that when a physician employs local means for the treatment of rheumatic pericarditis, in its earliest stage, it is always advisable to warn the patient of the disease which is approaching; as, some months ago, he met with an instance in which a practitioner was charged with producing heart-disease by the local applications which he employed for its removal.

Dr. Birkett had never found, nor had Dr. Babington, who had had much experience, that colchicum tended to produce pericarditis.

Mr. Cock then related a case of laryngotomy, rendered necessary by the state of asphyxia produced in a child 2½ years old, from drinking boiling water from a kettle. The operation, which promised well at first, was followed by bronchitis and death about four days after the operation. On enlarging the wound after death, the rima was found much thickened, nearly preventing the passage of air into the lungs. The author remarked in this case the peculiarity of respiration; at each inspiration the chest became contracted at each side the sternum, and the costal cartilages being drawn back almost to the spine, considered very few cases were permanently benefited by the operation, the almost inevitable consequence being bronchitis from admission of cold air. In the case narrated the larynx was opened instead of the trachea: the disadvantages of this are, its being more irritable and not bearing the passage of the trochar so well as the trachea; the advantages are its easier operation, especially in a young fat subject. The thyroid gland and hæmorrhage are avoided. It requires great care in passing the canula, the lining membrane being liable to be injured by it.

At the next meeting, February 19th, Dr. Todd, of King's College, will read some cases.

## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

FRIDAY, *Feb.* 6.—J. H. May.—W. Bannister.—E. Devey.—J. Webber.—G. E. Nicholas.—E. Whately.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *Feb.* 5.—Chas. Husband, London.—Jas. Eastwood Taylor, Whitworth, Lancashire.—Hen. Birkett, Kelloe, Durham.—Arthur Prime May, Maldon, Essex.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, Jan.* 31.

| Births. | | Deaths. | | *Aver. of 5 yrs.* | |
|---|---|---|---|---|---|
| Males.... | 698 | Males.... | 465 | Males.... | 493 |
| Females . | 612 | Females . | 436 | Females . | 474 |
| | 1310 | | 901 | | 967 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 156 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 144 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .....(Pop. 374,759) | 149 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .....(Pop. 393,247) | 196 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich (Pop. 479,469) | 256 |
| Total ..... | 901 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Winters; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 901 | 1080 | 967 |
| SPECIFIED CAUSES ..... | 896 | 1073 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 184 | 183 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 85 | 115 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 145 | 169 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 285 | 363 | 294 |
| 5. Heart and Blood-vessels ..... | 29 | 30 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 68 | 69 | 72 |
| 7. Diseases of the Kidneys, &c... | 7 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c..... | 10 | 12 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 10 | 7 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 3 | 2 | 2 |
| 11. Old Age..... | 50 | 90 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 20 | 27 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 7 | Convulsions .... | 32 |
| Measles ..... | 30 | | |
| Scarlatina ..... | 19 | Bronchitis ..... | 62 |
| Hooping-cough.. | 76 | Pneumonia..... | 75 |
| Typhus ..... | 28 | Phthisis .....120 | |
| | | Dis. of Lungs, &c. | 9 |
| Dropsy..... | 16 | Teething ..... | 4 |
| Sudden deaths .. | 5 | Dis. Stomach, &c. | 5 |
| | | Dis. of Liver, &c. | 5 |
| Hydrocephalus .. | 36 | | |
| Apoplexy..... | 23 | Childbirth ..... | 8 |
| Paralysis..... | 17 | Dis. of Uterus, &c. | 0 |

REMARKS.—The total number of deaths was 179 below the winter, and 67 below the annual average. The deaths from Zymotic diseases, with the exception of Measles and Hooping-cough, were also below the averages. The mortality from Measles is much abated (deaths 30), while that from Hooping-cough has increased (deaths 76). In all the districts, the mortality was below the average.

## METEOROLOGICAL SUMMARY

*For the Week ending Saturday, Jan.* 31.

Mean Height of Barometer .....29·47
„ „ Thermometer[a].....47·7
Self-registering do.[b] ..... max. 60·5 min. 30·5
„ in the Thames water. — 48° — 45·2

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 1·04: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was nearly 10° above that of the mean temperature of the month (38°). The extreme hebdomadal range in the self-registering thermometer was 60°.

## NOTICES TO CORRESPONDENTS.

Dr. Shearman.—The correction has been made. A proof shall be forwarded before the paper is inserted.

Dr. W. Strange.—An answer will be sent.

Mr. G. Harvey's case will be inserted.

Will "One who reads before he discovers" favour us with his name privately? There is no objection to the insertion of his letter. His name need not be attached to it unless he pleases.

Inquiry will be made respecting the omission of the names of those who passed the Fellowship examination, in August last, at the College of Surgeons.

A correspondent has sent us a paper on Traumatic Trismus. We shall feel obliged by his favouring us with his name for our own private satisfaction.

Dr. D. J. T. Francis's case will have early insertion. A proof shall be forwarded.

Mr. G. Burn.—Our belief is, and always has been, that the profession is indebted to Mr. Wakley for the Medical Witnesses' Act. The paper which has been forwarded to us is an advertisement.

We are obliged to Mr. Dermott for his offer. Perhaps he will favour us with some account of the new process.

Dr. Glover.—A proof shall be sent.

*Received.*—Dr. Shearman.—An Old Correspondent.—Dr. Waddy.—Dr. Lever.—Mr. G. Wilson.

ERRATA in Mr. Adams's paper on Floodings, No. 947.—P. 141, c. 1, *for* shuffled, *read* shifted; ibid. *f.* excitant, *r.* exhilant; ibid. (note) *f.* diametrically, *r.* demonstrably.—P. 143, c. 1, *f.* stones, *r.* pounds; c. 2, *f.* blooding, *r.* flooding; (note), *f.* contraction *r.* construction.—P. 146, c. 1, *f.* conçette, *r.* conçetti; ibid. *f.* repeated, *r.* reported.—P. 147, c. 2, *f.* perceive, *r.* persuade; ibid. *f.* ample, *r.* simple.—P. 150, c. 2, *f.* clearly identical, *r.* indicated; (note) *f.* softer, *r.* loftier.

## Lectures.

### A COURSE OF LECTURES ON MEDICAL JURISPRUDENCE.

*Delivered at Guy's Hospital,*

By Alfred S. Taylor, F.R.S.

### Lecture III.

*Cadaverous spasm —Evidence furnished by the position of a dead body—Weapons grasped in the hands of suicides—Case of Lord W. Russell—Question of identity —Suicide mistaken for murder—Evidence of interference with a dead body—Reid's case—Cadaverous spasm passes into cadaverous rigidity — Suspected murder from the position of a dead body —Case of Courbon. 4. Loss of muscular irritability—Application of galvanic and mechanical stimuli—Order of its disappearance—Effect of disease. Cadaverous lividity—mistaken for marks of violence —Cases—nature of—how known from marks of violence—Vibices—changes of colour in lividity—period of its accession —ecchymosis from incipient putrefaction.*

In the last lecture we considered the state of rigidity as it is met with in the dead body. In pursuing the subject, I have next to call your attention to that condition of the dead muscle which has been called cadaverous spasm.

*Cadaverous spasm.*—In cases of sudden and violent death, it is by no means unusual to find the body, or one or more of the members, fixed in a state of spasmodic contraction. This is especially witnessed in those cases, where the individuals have died in full and robust health. It frequently happens that the body of a suicide is discovered stretched out on the floor of an apartment, with the suicidal weapon firmly grasped in his hand. Razors and pistols are thus very frequently found in the hands of suicides, whether recently dead, or whether they have been lying some time before being discovered; and these instruments may be grasped or held under circumstances which would appear impossible, from their weight, were it not well ascertained, that the spasm which often ensues at the moment of death, may be retained for a very considerable period. In Sept. 1836, a gentleman was found dead in a chair, in his bed-room; he had shot himself, as it was supposed, some hours before being discovered. A discharged pistol was still held firmly in his right hand, and there was also a loaded pistol grasped in his left.

Instances are frequently occurring, in which razors or knives require to be removed, even with some force, from the hands of those who have destroyed themselves. In such cases, the contractile power, impressed by the last fatal act of volition, persists until cadaverous rigidity supervenes.

Devergie observes, that, although in many cases, the upper extremities, at the moment of death, fall in a collapsed state by the sides of the body, there are numerous others, in which their situation may throw some light on the manner of death. In one case of suicide by a pistol-shot, he found on entering the apartment, the right arm and hand of the deceased turned towards the side of the head against which the pistol had been fired. A man, who had died from the effects of carbonic acid, given out by a lime-kiln, was found with the left arm raised and supporting the head, the right semiflexed on the abdomen: the whole figure being that of a person asleep.

These are curious facts, and deserve to be borne in mind, for questions relating to them most unexpectedly arise on trials for murder. Although apparently trivial, they may in some instances become the turning points of the guilt of the prisoner.

In the case of Lord William Russell, who was murdered by Courvoisier, it was observed, that one hand of the deceased firmly grasped the sheet of the bed, as if in a struggle against an assassin. The force here given to the muscles during life had persisted after death: it had passed into what has been termed, for want of a better designation, "cadaverous spasm," and in this state the hand had become rigid. You will perceive that this position of the hand furnished some evidence against the presumption of suicide. In drowning, it is by no means unusual to find when the dead bodies are taken from the water soon after the accident that pieces of rope, an oar, grass similar to that growing on the banks, or weeds like those growing at the bottom of a canal or river, are firmly grasped in the hands. This is one of the strongest proofs which we have that the individual has gone into the water living. Part of a dress may be thus found, and serve to identify a person accused of murder.

In a case lately tried, the prisoner was charged with the murder of an old woman, with whom he cohabited. The body of the deceased was found lying dead in the house, with such injuries about the head, as to render it certain that she must have been murdered. In her right hand was found a considerable quantity of brown hair, and in the other hand, a single grey hair, grasped evidently in the struggle for life. The morning following the murder, the prisoner went to a hairdresser's in the town, and desired to have his hair and whiskers cut.

This man observed that the hair and whiskers had been recently cut, and evidently by some one unaccustomed to hair-cutting. There was a difference between the hair of the whiskers and that of the head, the former having turned grey. The hair-dresser was of opinion, that the hair so found in the hands of the deceased, was of the same colour and kind as the hair of the prisoner. This, with other circumstances, led to his conviction.

Great light is often thrown upon a question of suicide or murder by attention being paid to these minute points connected with the dead body. I have already called your attention to the fact, that weapons, such as pistols, or razors, are often found forcibly grasped in the hands of persons who have destroyed themselves. I do not know that any evidence more strongly confirmatory of suicide than this can be adduced. It does not seem possible that a murderer could simulate this condition after destroying the deceased. The hand of a dead person, while still warm and pliant, could not be made to grasp a weapon in the same way as that hand which had firmly held it by powerful muscular contraction at the last moment of life. At any rate, the attempt to produce this appearance has signally failed. At the trial of a man, named Saville, in 1844, it came out in evidence, that the deceased, his wife, was found dead with her throat cut, and there was a razor, not grasped, but lying *loosely* in her hand. There was no blood upon the hand which held the razor, and this, together with the fact of its being loose, rendered it certain that the weapon must have been placed there by some person after the throat of the deceased had been cut. Neither during nor after the cessation of rigidity could this condition of the hand be simulated; in no case, it appears to me, is it possible to give an appearance of grasping similar to that which is occasionally found after death as a result of cadaverous spasm and rigidity.

It is strange that the discovery of a weapon under these circumstances has been in more than one instance assumed to furnish the strongest evidence of murder. The following case is, in this point of view, worthy of your attention. On the 5th July, 1835, the reporter, a medical practitioner, residing at Bordeaux, was requested, by the Commissary of Police, to inquire into the facts connected with the supposed murder of a gentleman on the morning of that day. Upon entering the apartment, which had been left undisturbed, he found the deceased perfectly dead, sitting in an arm-chair by the side of the bed, the left elbow resting upon the bolster. His right hand, which held a recently-discharged pistol, rested upon the middle of the right thigh, the greater part of the barrel projecting over the inner surface of the thigh, so that the slightest motion of the part would apparently have been sufficient to cause it to fall on the floor. The bullet, which could not be found, had fractured and traversed the left parietal bone, after having torn off nearly the whole of the face. The clothes of the deceased were saturated with blood; a large quantity had also drained through the seat of the chair, and had formed a considerable clot on the floor. The temperature of the body indicated that the deceased had not been dead above two hours; and it was at about that time, that the discharge of a pistol was heard by some of the neighbours.

The other facts ascertained relative to the case, were, that the deceased, who was about sixty years of age, had never shown any disposition to destroy himself; and there was no moral circumstance which seemed likely to have acted as an exciting cause, except perhaps the loss of a law-suit by a favourite sister, which, however, was deemed scarcely sufficient to explain the event. He had a son, who lived in the house with him, and slept in the same room. They were both dissipated in their habits. On the morning of the event, after breakfast, the son (according to his own statement) threw himself on his bed, which was by the side of that of his father; he fell asleep, and knew nothing of the circumstance until he was roused out of his sleep by the discharge of a pistol. The son was accused of having destroyed his father, and of having placed the pistol in the hand of his parent after death, in order to lead to the supposition of suicide. This circumstance seemed so much the more probable to the police officers and those who were present at the finding of the body; since, when the hand with the pistol was carefully carried to the position, in which the weapon must have been held by the deceased to have committed the fatal act himself, and the hand was afterwards allowed to fall by its own weight, the pistol each time fell from the hand to the floor. Besides, on the moral side of the question, it was shown, that the son would be benefited by the death of the father.

The medical examiner having duly reflected on the position in which the deceased was discovered, satisfactorily accounted for the hand retaining the pistol after death by the contractile state of the muscles, from the effect of volition at the moment of death being sufficiently strong to prevent the weapon from falling. The experiments performed with the hand and pistol subsequently were very properly stated to be unsatisfactory; since, when this contracted state of the muscles has been once destroyed by much handling, it cannot of course be restored. The specious argument thus

founded upon a popular error, was by the ingenuity and tact of the medical witness satisfactorily refuted.

The reporter of the case, candidly confesses that he was at first, owing to his being misled by popular prejudice, almost inclined to believe that the son had been guilty of parricide; and probably if a hasty and careless examination had been made, or if the body had been officiously interfered with, previously to its being seen by a medical man, the son might have been committed for trial on the charge. So soon as this apparently physical proof of his guilt had been explained away, it was then seen, that all the other circumstances rebutted the presumption of homicide. The discovery of a weapon so held, is one of the best possible proofs of suicide.

The postures, in which the bodies of persons found dead from any cause, are discovered, may, in very numerous cases, be brought forward to support a charge of murder, or, at least, of criminal interference: but great care is always required in the application of medical principles to the elucidation of these cases, as well as a good general acquaintance with the various phenomena immediately preceding and following death.

As the body becomes rigid in the position in which it happens to be on cooling, and assumes exactly the attitude of the person at the time of death, careful observation may, in some instances, show whether, in a case of violent death, it was or was not interfered with *before* rigidity took place. A question of this kind arose in a case lately tried in this country. The deceased was found lying dead in the room where the murder had been perpetrated; there were marks of blood in various places, and the body had evidently been removed from the spot where it had fallen: it had been laid out. The clothes had been tucked round it, and a piece of black cloth had been placed over the face. A question arose as to whether the body had been thus removed before or after rigidity occurred? As it was found evenly laid out, the probability was, that it had been removed while the limbs were pliant; and they had then become rigid in this position. If a body be removed during the state of rigidity, it may be in some instances indicated by the position of the limbs, not being adapted to the surface on which the body is found lying. The first effect of death, in the absence of cadaverous spasm, is relaxation; the body then disposes itself according to the surface on which it happens to be lying; the arms or legs may be more or less flexed or contorted, and become rigid in the position which they assumed at the time of death. The lower jaw, if left to itself, drops and becomes rigid in this position. When a body is found rigid, with the members evenly extended, and the jaws closed, this is, *cæteris paribus*, strongly indicative of interference while there was warmth and pliancy in the limbs. When, on the other hand, the body is found rigid and doubled up, with the limbs more or less twisted, lying on an even surface like a bed, the probability is, according to circumstances, that the body has been moved from the spot in which this individual had died, and rigidity had supervened. In suicidal hanging, the body, and especially the extremities, are now and then found twisted in a singular manner around articles of furniture. In such cases, the general muscular convulsion, at the moment of death, will physiologically explain, what to uninformed persons may appear physically incompatible with the deceased having destroyed himself.

The following case will serve as an additional illustration of the occasional importance of these inquiries.

In June 1835, Robert Reid was tried before the High Court of Justiciary, at Edinburgh, for the murder of his wife. A very full report of this interesting and instructive trial has been published by Dr. Fletcher, who, although not a witness, lent his medico-legal assistance to the prisoner. It is not my intention to enter fully into the details of the trial, since the greater number of the disputed points must be reserved for consideration at another time, but I shall select that medical circumstance only, which refers to the posture of the body of the deceased, respecting the cause of which there was some difference of opinion.

According to Dr. Fletcher, "the posture" in which the corpse of Mrs. Reid was found at half-past two o'clock, on Saturday, the 20th Sept. 1834, the day of the supposed murder, was thus described by the witnesses. "She was sitting on the floor by the side of the bed, nearly naked, with a portion of the bed clothes wrapped around the lower part of the body; the head erect, but inclined a little backwards and to one side, the face being towards the bed. The left arm hung down by her side, with the back of the hand on the ground, the right arm resting by the elbow on the bed, and maintained in the upright position without any further support, as if she had been in the act of putting it to her face. The legs were crossed under the trunk, the left being less protruded than the right."

This very extraordinary posture was presumed by all who saw it, and by the medical witnesses for the prosecution, to be such, that the deceased could not have assumed it herself in the act of dying; and this was rendered still less likely, when it was considered that the cervical vertebræ were frac-

tured, and one of them displaced, so that she had probably died a violent and very sudden death. The attitude appeared to be also quite irreconcileable with the supposition of death from accident or suicide. The chief question seems to have been, whether, admitting that the prisoner had actually placed his wife in that posture, the maintenance of it was to be ascribed to a convulsive spasm, simultaneously occurring with death, or to the supervention of ordinary cadaverous rigidity. If the posture were admitted to have been due to cadaverous rigidity, naturally supervening, then it followed that the deceased must have been dead some time,—at least, some hours. The prisoner was proved to have been at home from nine until half-past nine: the deceased's body was discovered at two, and as the prisoner had not been at the house between half-past nine and two, so it followed, that, supposing him to have been guilty, he must have committed the murder during the half hour that he was at home. Hence, cadaverous rigidity must have come on in four hours and a half after death!

But, on the other hand, it was urged, that the attitude of the body, and the very singular perpendicular position of the right arm, were due to a spasmodic contraction of the muscles in a fit, at the moment of death, persisting under the form of cadaverous spasm. There is this difference between spasm and rigidity in the dead; the former exists while the body is warm, and offers but little resistance to any alteration made in a part; the limb, for instance, commonly yields to a moderate force, and becomes supple and pliant. In cadaverous rigidity, when confirmed, the body will commonly be found cold, and very considerable force is required to overcome the contracted state of the muscles; sometimes, indeed, it cannot be accomplished without making repeated and violent efforts. In incipient rigidity less force would obviously be required than in those cases where it is confirmed; and although rigidity occasionally commences while the body is warm, yet I believe in these cases the rigid member offers much less resistance to any force applied to it. The cold rigid body possesses no pliancy whatever: it may be raised like a board. The non-medical witnesses stated that the body of the deceased was perfectly flexible, and the arms and legs so pliant, that they could be easily stretched down; indeed, the whole body was so yielding as to admit of its being directly laid out at length on the floor. The body was partially warm, when first found, but, as it has been already observed, this is quite compatible with the occurrence of rigidity. Certainly, however, where a body is warm and the members are easily moved from their position, the presumption is rather in favour of the fixed posture being due to muscular spasm than to cadaverous rigidity.

The witnesses for the prosecution considered that the posture of the deceased was owing to rigidity. Dr. Fletcher attempts to explain the facts by supposing that the deceased had probably fallen in a fit while getting out of bed, during the absence of the prisoner; admitting that the prisoner might on his entrance, at about nine o'clock, have attempted to raise the body, and thus have given the erect position to the trunk; while the perpendicular position of the arm was entirely due to spasm. It was urged that the woman had been previously subject to slight paralysis and fits, and that the occurrence of a fit, under the circumstances, was not unlikely. The position was not such as we might suppose a body to assume when the deceased has died under a cataleptic seizure.

On the other side, it was considered to be rather improbable, that the prisoner could have placed the deceased in the attitude in which she was discovered, admitting her to have died in any other posture—since at the time he did it, the body must have been cadaverously rigid or not. If it were rigid, he could not easily have bent the members from the position which they had already assumed;—and if it were not rigid, he must have used artificial means to keep the members and trunk in the very extraordinary position in which they were found: for it was not likely that he would have purposely held her head and arm in such a singular attitude until her body had become fixed. Indeed, in order to accomplish this he must have waited until it had become cold, whereas it is stated to have been found with some warmth and pliancy about it. Besides, it would be impossible to assign any reason for his so doing, since he would be ignorant of the medical difficulty connected with it.

The prisoner was discharged on a verdict of not proven, because it was not satisfactorily made out that he had really caused his wife's death. The state in which the body was found, created a presumption that the deceased had died, from natural causes, not long before the discovery of her body:—therefore, at some time between half-past nine and two, and while the prisoner was absent from the house.

The account of this case, as given by Dr. Fletcher, is of course made out in the most favourable way for the prisoner. Having been employed as medical counsel on the occasion, he suggested many ingenious explanations for circumstances which were certainly very strong against the prisoner. The verdict of "not proven" sufficiently attests the opinion of the jury; and had the medical evidence respecting the cause of death from violence, been a little more

clearly made out, there is hardly a doubt that the prisoner would have been convicted.

Whether this was a case of death from natural causes, or, as alleged, from an injury to the spinal marrow, we must regard the attitude in which the body was discovered as very unusual. There were difficulties in the way of an explanation whether we suppose the prisoner to have interfered or not with the position of his wife's body. Had a proper examination been made by medical men when it was first discovered by the neighbours, some of these difficulties would probably have been removed. With a fracture of the processus dentatus, and a dislocation of the first and second vertebræ, it is not very likely, unless the body were supported mechanically by the clothes which it is said had the appearance of having been dragged off the bed with it, that a person so injured, would die in the attitude in which the deceased was discovered, or that she could have had the power to assume it spontaneously after such a severe injury to the spinal column. The probability is, that the body would have been found lying on the floor.

A question was raised upon this trial respecting the duration of muscular spasm after death: and this may become at some future time, a point upon which a medical witness may be required to express an opinion. There is but little doubt from numerous collateral facts, that it may remain for a considerable time after death; and even pass into cadaverous rigidity, *i. e.* the posture assumed by a limb from spasm, at the moment of death, may be retained as the posture of cadaverous rigidity, supposing the body not to have been disturbed. An instance is reported where a drowned subject, after having remained in water from twelve to fourteen hours, was drawn up with his hands still grasping firmly the cable of a vessel, which he had caught hold of in the act of drowning. The bodies of persons drowned in a common accident, are found not unfrequently after twenty-four hours locked together by their arms, when taken out of water cold and rigid. In individuals who die under violent spasmodic contraction of the muscles, as in cholera and tetanus, the state of spasm is sometimes so preserved after death, as to pass into rigidity. Besides, the features of the face will often retain the dying expression of agony, until putrefaction supervenes. In most cases of drowning there is a remarkable placidity of the countenance.

The attitude in which a dead body is found rigid, may give rise to an erroneous suspicion of murder. Of this an interesting case has been reported by M. Marc. The deceased, Courbon, was found dead in a ditch:—the head was bent upon the chest, and the lower part of the trunk was so curved, that the whole weight was borne by the neck. The body was very rigid, but there were some slight traces of warmth. On inspection there were all the appearances of apoplexy, and the deceased was well known to be of drunken habits. Notwithstanding these facts, two persons were convicted of murder upon some loose evidence,—principally on the ground that the unnatural posision in which the body was found, could only be explained on the supposition of murderous interference. The accused were condemned to the gallies for life; but after two years' punishment, a proper medical investigation of the facts was for the first time instituted, and they were discharged. The evidence established that the deceased had died of apoplexy; and that the body had assumed the peculiar position in which it was discovered, owing to the deceased having fallen into the ditch in a state of drunkenness, by which he was rendered helpless and incapable of extricating himself.

While, then, rigidity may sometimes indicate murder, or some form of violent death, by fixing the body in a position which it could not naturally have assumed, and which cannot be easily altered during the rigid state, we must beware that we do not give an undue importance to this sign of death as a proof of violent usage. This caution is especially required in the cases of drunken persons, for the body of an individual, who dies in a fit of drunkenness, may be found contorted and disposed in a way which is apparently compatible neither with accident nor with suicide.

4. *Muscular irritability.*—We have now to speak of another sign of death, namely, the loss of muscular irritability. It has been proposed, in order to determine the reality of death, to lay bare a portion of muscular fibre, and observe whether on the application of a stimulus the muscle contracts or not. It is a well-ascertained fact, that the muscles continue for some time after death, and after the circulation has ceased, to manifest signs of irritability and contractility, on the application of different stimuli. All the muscles do not retain this irritability for the same length of time, nor do they all lose at once their susceptibility of contraction. One kind of stimulus may excite them, while another may not.

The previous state of health, the kind of death, and numerous extrinsic circumstances preceding death, have a great influence on the duration of this irritability in the muscles. Galen, Harvey, and Haller, knew that the heart, which in physiology is termed the punctum saliens, was in general, the ultimum moriens. Haller endeavoured to lay down the order of cessation of this irritability, in different muscles after death. Many other physiologists since his time have also occupied themselves with the elu-

cidation of this interesting question. Haller found that it varied according to the kind of stimulus employed: thus the irritability of the heart was excited by *mechanical* agents for a longer period, than any other part of the muscular system :—a circumstance which will account for the reports of persons being dissected alive, to be found recorded in some works on Medical Jurisprudence. The puncture of the knife or forceps some time after death, will often give rise to contractions of that organ. The voluntary muscles, on the other hand, have been found to remain much longer excitable by the galvanic stimulus than the heart.

Nysten ascertained that the successive disappearance of muscular irritability in the bodies of decapitated individuals took place in the following order :—1. The left ventricle of the heart; 2. the stomach and intestines; 3. the urinary bladder; 4. the right ventricle; 5. the œsophagus; 6. the iris; 7. the muscles of the exterior; 8. the right auricle, and finally the left.

The power of making the muscles contract under the galvanic stimulus, has been found, however, to vary according to the nature of the disease of which the individual died. As a general principle, it may be stated, that the irritability of the muscles is destroyed so soon as cadaverous rigidity commences. From numerous experiments performed at La Charité, it appears that in death from peritonitis, irritability ceases in about three hours; in phthisis, scirrhus and cancer, in from three to six hours; in death from profuse hæmorrhage, or from mortal lesions of the heart, in about nine hours; in apoplexy with paralysis, in twelve hours; and in adynamic fevers and pneumonia, the irritability disappears in from ten to fifteen hours. In these experiments, the muscles of the trunk and limbs alone were examined; since it is upon these, should the necessity ever occur, that the practitioner must operate. Although the periods are thus laid down in figures, yet the results must be regarded only in the light of approximations to the truth.

*Lividity.* — There are certain external changes which take place in the dead body before the access of or during putrefaction, to which it is especially necessary that a medical jurist should attend. There is what is called *cadaverous lividity*, which comes on during the act of cooling. At a still more advanced period, dark livid spots or patches are met with in the skin, to which the name of *sugillation* or post-mortem ecchymosis has been given. These appearances have often been mistaken for the effects of violence applied during life, and serious mistakes have thence arisen. Innocent persons have been accused of manslaughter, and have been tried on charges afterwards proved to be groundless. Dr. Christison, in his evidence before the Parliamentary Commissioners some years since, mentioned two cases, in one of which two persons were convicted, and in the other, three narrowly escaped conviction.

In 1764, Keir, with his mother, was tried on the Aberdeen circuit, for the murder of his father. This case excited great interest at the time, and for many years afterwards. The prisoners were condemned, but the only evidence of any weight against them was the appearance of a broad blue mark on the fore part of the neck, which the witnesses compared to that produced by strangulation. There was, however, great reason to believe, from their own description of it, that it was due to natural changes taking place after death.

The other case occurred in Edinburgh in 1808. Three men left a public house, intoxicated and quarrelling with each other. On the next morning one of them was found expiring in a wood, and he died soon after he was discovered. Two surgeons deposed, that they found the marks of numerous contusions all over the body, and upon this deposition, the two companions of the deceased were committed, and subsequently tried for the murder. On the trial, Messrs. Bell and Fyfe proved to the satisfaction of the Court, that the apparent contusions were nothing else than the livid patches, which sometimes occur spontaneously on the dead body, after many kinds of natural death. Of course, this led to the liberation of the accused parties.

These spontaneous changes in the dead, must, therefore, be attended to by the surgeon. They may be best considered, by dividing them into those which take place *before putrefaction*, and those which take place *afterwards*.

The first form (before putrefaction) is commonly called *lividity*. The body, although pale at the time of death, becomes covered during the act of cooling by extensive patches of ecchymosis, diffusing themselves over the greater part of the trunk and limbs. The colour is of a deep purple, often mottled, but generally abruptly terminating in the white skin. This kind of ecchymosis is chiefly seen on the bodies of those who die suddenly or by a violent death, as in apoplexy, hanging, suffocation from charcoal vapour, and other causes. In the latter case, it has been found to be occasionally especially developed.

When the skin is cut into, it is seen that the colour is confined to the upper layer of the cutis, or in the space between the cuticle and cutis, and never to extend through the latter. There is no sanguineous effusion, but apparently a simple congestion in the minute capillary vessels.

The unruffled state of the cutis, the great apparent extent of this ecchymosis, the fact that it affects many parts of the trunk and members, and often entirely envelopes the whole circumference of a limb, are, together with its abrupt termination, and the absence of extravasated blood, circumstances sufficient to distinguish it from the ecchymosis of violence.

Sometimes this lividity is disposed in a peculiar form over the body. If a stout and muscular subject that has died suddenly be wrapped up in a sheet, and the body thus allowed to cool, the lividity will be disposed in the form of innumerable stripes or bands over the whole surface—the congestion of the vessels taking place in the interstices of the folds, while the parts actually compressed are white. The appearance of the subject is such that we can hardly divest our minds of the idea that the person must have been scourged. The unbroken state of the cuticle, with the other characters just now mentioned, sufficiently distinguish it. A few years ago, an instance occurred at the hospital, in which a coroner's inquest was held on a body merely from its presenting this appearance. This kind of ecchymosis is known under the name of *vibices*. It is often seen on the backs of subjects that have been allowed to cool either in their clothes or on any rough and uneven surfaces.

But lividity in the dead subject occasionally presents itself under a more deceptive form than in either of the instances just mentioned. This is well shown in the case of a man who died in November 1837 on board of the Dreadnought hospital ship, the particulars of which were communicated to me by Mr. Tuckett.

The subject of this case, æt. 33, died suddenly from disease of the heart. Just before death the body had been auscultated, and no marks existed on his skin. The body, after about eighteen hours, was examined, and then it was found to present, in detached places, patches of ecchymosis, varying in size from small spots to several inches in diameter. A very slight examination showed that these were owing to simple lividity, although closely simulating marks of violence during life, because those parts of the back and limbs which were not compressed by the surface on which the deceased was lying, were the only parts ecchymosed. The calves of the legs, sacrum, and dorsal portion of the back, which bore the pressure, were white. On cutting into these patches, the layers of the skin were throughout reddened, as well as the tissues beneath, from congested blood; but small rounded semi-coagulated masses oozed out from the cells on slight pressure.

These characters somewhat resembled those produced by violence on the living subject: but there was another, and, so far as I know, a perfectly unexampled, circumstance, in which the resemblance to *vital* ecchymosis, so to term it, existed. Around many of the patches, there is, as you will see by the model before you, a border, or ring, of straw colour, precisely similar to that seen on the disappearance of an ecchymosis from the living subject. By all medical jurists it has been hitherto laid down as a positive axiom, that the rings of colour are peculiar to vital ecchymosis, and are never seen in the ecchymosis produced after death. The occurrence of this case shows with what caution general rules ought to be framed. Had the body of this person been found lying dead and exposed in a ditch, after it was proved that another man had been seen quarrelling with him, what would have been the opinion expressed? We can scarcely hesitate to say, unfavourable to the accused party.

This kind of ecchymosis could only have been distinguished from that of violence by the unabraded state of the skin, and the very slight extravasation of blood. It is worthy of note, also, that the chief seat of ecchymosis was in those parts which were dependent. The formation of the yellow zone around *some* of the patches of lividity was fully explained by the fact of the man having laboured under anasarca. The serum effused in the cells here acted upon and diluted the blood as it became extravasated, and diffused it around much in the same way as the serous exhalation is observed to do in the living subject.

Lividity is rarely seen in the bodies of those who have died from profuse hæmorrhage. The skin is commonly blanched.

An important question, connected with lividity, or cadaverous ecchymosis, was raised on the trial of Reid, already alluded to. Whether this cadaverous lividity *preceded* cadaverous rigidity or not? Rigidity does not in general commence until the body is cold; while the lividity here treated of is never seen to appear after the body has entirely cooled. It is a phenomenon undoubtedly connected with the presence of warmth in the body, and liquidity of the blood; hence cadaverous lividity begins to develope itself often very soon after death, and continues to increase until the body is cold, when its formation appears to be arrested. Thus, then, we are entitled to say that, except in those instances in which rigidity commences while the body is yet warm, cadaverous lividity precedes this condition of the muscular system. It persists during the state of rigidity; but Devergie has remarked that it sometimes disappears entirely, when cadaverous rigidity ceases.

About the time when putrefaction commences, there is a kind of ecchymosis that

takes place in the dead body, which, however, we are not likely to confound with that of violence: all who have dissected must be well acquainted with this appearance. The skin acquires a deep reddish discoloration, often livid, chiefly in those parts of the body which are dependent, as the nape of the neck and the loins. On cutting into these parts, the layers of the skin are found reddish coloured throughout, and there is generally abundant sero-sanguineous infiltration into the cellular tissue.

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THE PERIODS AT WHICH TETANUS OCCURS.

If it sets in soon after the injury that caused it, it will run its course rapidly. Thus, suppose a man gets a hurt in the morning, and in the evening of the same day tetanus appears; he dies that night. Whenever it comes on so soon as this, the patient invariably dies in twenty-four hours; but you may not meet such a case as this in twenty years. In these countries tetanus seldom makes its appearance before the sixth day after the injury; it sometimes will not shew itself until the forty-second day. The wound may be in any possible state or stage; it may be sloughing, or the slough may have separated, or more generally when the wound is suppurating, and, as I have myself seen, even when the wound is quite healed. There is, then, no stage of the local injury in which tetanus may not make its appearance; and neither before nor during the progress of the complaint does the wound alter its character in the least, as it does in hydrophobia. —*Professor Colles' Lectures.*

DANGER OF MISTAKING A DETAINED TESTICLE FOR BUBONOCELE.

If one of the patient's testicles should never have descended into the scrotum, but remains in the inguinal canal, and this testicle gets inflamed from any injury, it gives precisely the symptoms of strangulated hernia; I would defy any one to tell the difference between them. Now, if you proceed to operate in this case under the impression that it is hernia, you will perform an operation that will be very likely to be fatal to the patient; merely exposing the testicle in this situation is almost always fatal. I recollect I once went to perform an operation of this kind, and did perform it, without ever thinking whether the man had a scrotum or not. I found the symptoms arose from an inflamed testicle in the canal. The man died, and the case left an impression on my mind that I will not readily forget. Inflammation of the testicle here is infinitely more violent than it is in the scrotum, and when it is exposed the patient dies of peritoneal inflammation. — *Professor Colles' Lectures.*

## RESEARCHES ON STRICTURE OF THE URETHRA.

By L. Auguste Mercier, M.D.*

*Translated for the London Medical Gazette.*

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Few maladies have been the subject of so many writings as strictures of the urethra, yet few still offer more problems for solution. Their pathology has been, up to the present time, altogether unknown, their effects ill appreciated, and their treatment but too often the fruit of empiricism or routine. The ensuing researches will, I hope, throw some light on these points; but before entering upon them, I beg the reader to remove every preconceived idea, and form his judgment only after their completion.

Of so-called spasmodic stricture of the urethra, we generally admit spasmodic, inflammatory, and what are termed organic strictures: let us see in what light these different species are to be regarded. It is especially to John Hunter that we owe the reigning ideas on this subject. The alterations he observed in the flow of urine of certain persons, and the impossibility of attributing phenomena so variable to a lesion purely mechanical, led him to believe the urethra capable of active contraction and dilatation; he even concluded the tissue of the canal itself to be muscular. "The urethra," he says, "is subject to diseases peculiar to muscles; and this is, indeed, the only proof we possess of its muscularity †." So that Hunter himself avows it was not to anatomy he owed his idea of the structure of the urethra. Sir Everard Home, it is true, asserts he had seen a bed of circular fibres outside the mucous membrane; but his opinion has not much weight, for he did little more than copy and exaggerate the opinions of his master. Besides, an opposite doctrine is maintained by Sir Charles Bell, Graëfe, and Barovero of Turni. Shaw never found these muscular fibres in the horse, donkey, or bull ‡; and Amussat, having laid bare the urethra of a living dog, and introduced a sound, did not meet the least difficulty in following the course of the canal, even when excited to contract before the beak of the instrument by pinching and other external irritation §.

The jet with which gonorrhœal matter sometimes issues, when the lips of the meatus are glued together by inspissation of

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* Read before the Paris Academy of Sciences, Sept. 1844, and published in the Gazette Médicale, 1845.

† Hunter, by Richelot, vol. ii. p. 362.

‡ Med. Chir. Trans. vol. x. 342.

§ Gazette Méd. 1836, p. 114.

some of the secretion, has been adduced to prove the muscularity of the spongy portion of the urethra. But this phenomenon is purely the effect of elasticity—the force by which an injection is expelled; and it equally takes place in the dead subject, especially if we first inject water into the spongy tissue of the urethra, so as to create the slight tumefaction it often exhibits in gonorrhœa. Shaw has since shewn, that a bougie, particularly a conical one, introduced some inches into the canal when in this state, is gradually expelled.

Again, in support of the same opinion, authors have remarked a phenomenon just the reverse—viz. that a bougie which may have entered with perfect ease, sometimes cannot be withdrawn without a certain amount of force; but if the bougie has passed a firm callous stricture this is easily explained; for, little as that instrument is influenced by moisture, it swells both before and behind the contraction. I have occasionally, too, observed another circumstance, which, noticed and misinterpreted by others, has led to error. The canal is often narrow before or behind the fossa navicularis; and some force is necessary when we wish to introduce a large sound: now if, in withdrawing the instrument, the penis is not held, it becomes elongated by the traction, and the urethra losing in capacity what it gains in length, compresses all the included portion of the sound, and the more forcibly, the more we stretch it. Hence the points of friction are multiplied, and the resistance is proportionably increased.

Other causes, again, may simulate spasm of the urethra. Thus, M. Amussat having introduced beyond a stricture a very fine bougie, which he could neither advance nor withdraw, it occurred to him to inject the canal forcibly. The bougie was by this manœuvre disengaged, and the urine flowed freely; but to the surgeon's great surprise, he found his fingers covered with red gravel: he now perceived that this foreign substance had accumulated behind the obstacle, and that the bougie had from this cause been impacted in a manner so extraordinary. Curvatures of the canal but little known, and sometimes unusually developed, have also gained credit as spasmodic strictures. Thus, if we forget that the urethra, in passing from the apex of the glans to the inferior surface of the penis, describes a more or less decided curve, and introduce a bougie in the axis of the penis, the point of the instrument will strike against the upper wall of the canal, and easily be arrested, as it meets the large lacuna in that situation. In passing beneath the arch of the pubis the urethra also undergoes a curve, which is not sufficiently known: from the suspensory ligament, which fixes the penis to the front of the symphysis, to the bulb, the canal is not directed straight backwards, but descends a little at the same time, and, in some subjects, in a very decided manner. Many surgeons are stopped at this point, because, imagining they have reached the bulb, they depress the handle of the instrument, in order to raise and engage the beak in the membranous portion; whilst, on the contrary, they ought to raise the handle more, so as to depress the beak completely, and make it pass beneath the pubis. Some practitioners, after having fumbled some time, discover the right track; and quite surprised at advancing so easily, where they had experienced so much difficulty before, remain convinced of having for the moment encountered a spasmodic stricture. Through the whole extent of the canal, inflammatory tumors, lacuna, and little false passages, may likewise become sources of error.

In Dupuytren's Leçons Orales there is the case of a man affected with deep and very firm stricture:—"A bougie was placed in front of the obstacle, but the wilful patient withdrew it an hour after. In the evening we tried to introduce it again, but ineffectually; the urethra was in such a state of spasm that we could not make the instrument penetrate beyond the fossa navicularis, and great force was necessary to disengage it. The day but one after, M. Dupuytren used a silver sound of medium, and one of small size; but both were stopped at the fossa navicularis, and held with the same force the bougie had been on the previous evening. The tip of a sound, rounded at its extremity, was then introduced, and fixed in the fossa navicularis; it made but little way at first, but in twenty-four hours had passed." This fact is one, perhaps, arguing most strongly in favour of spasm of the spongy portion of the urethra; yet I fear there was not sufficient attention paid to the different causes of error which exist in the anterior part of the canal. If we assume, for example, that natural narrowing which I have described as not unfrequent behind the fossa navicularis, and suppose (what does not appear improbable, after the reported indocility of the patient) that the pressure exerted at this point by the first bougie had excited inflammation, and consequently swelling, we can understand why the bougie introduced at first could not be passed again for some days.

M. Civiale also believes the possibility of spasmodic stricture of the spongy portion *; but the evidence he brings forward is very inconclusive:—"Having submitted a patient," he says, "to the operation of lithotrity, a large fragment of the calculus became entangled in the urethra, at the midd

* Malad. des Organ. Genit. Urin. t. i. p. 61.

of the spongy part, whence, after some hours, I withdrew it. In four hours after, I was again summoned to the patient, who, unable to make water, conceived a second fragment had stopped at the same place; but on carefully introducing a sound [algalic], which was arrested at this point, I could not discover a stone: he had merely a strong stricture of the urethra to the extent of two or three lines. This contraction soon yielded to gentle and gradual pressure, when, immediately before the instrument advanced further, the urine was projected with so much force that it was impossible to collect it."

There is no proof of any thing more than inflammatory swelling in this instance. In like manner, there has not perhaps been a single case adduced as an example of spasmodic stricture of the spongy portion, which is not susceptible of a different interpretation; surgeons of very great experience confess they have never seen one *, and I am myself in the same condition. It must, then, be allowed, that before admitting as proved a phenomenon thus unusual, new observations are required, collected with more care against the different sources of mistake, than hitherto seems to have been employed.

As to spasmodic strictures of the deep part of the urethra, they are more generally acknowledged; in fact, they rest on proofs more numerous and convincing;—and the parties who allow the possibility of spasms through the whole extent of the canal, agree that we meet with them, almost exclusively, only in the deep portion †. Nevertheless it is still important to understand this subject.

I have stated in another place ‡, and in doing so did but unconsciously repeat the opinion of the distinguished English anatomists, Sir C. Bell and Mr. Shaw, that I do not believe the parietes of the membranous portion are formed of muscular, but of a fibrous tissue; into the composition of which numerous venous capillaries enter, analogous, though in miniature, to the network which gives to the spongy part its aspect and its name. By reaaon of this structure, the colour of the membranous portion resembles that of muscular tissue, and on making traction upon it lengthways or transversely, it presents longitudinal or circular striæ accordingly.

By the authors just referred to, the membranous portion itself is not considered capable of active circular contraction; there exists, however, on its exterior, an arrangement, discovered by Wilson in 1808*, to which sufficient importance has not yet been attached. A portion of the levator ani (but regarded erroneously by that author as a peculiar muscle) is so disposed, that, having its attachments behind the symphysis pubis, it passes to decussate with the corresponding portion of the opposite side, behind the membranous part of the urethra, and forms a loop embracing that part in its concavity.

From this disposition it results, that if the fleshy fibres of which these two fasciculi are composed contract, the portion of the urethra they embrace is drawn forward, and makes a more acute angle with the bulbous portion, which is held back by the insertion of the sphincter ani externo. If, then, from any cause, the deep part of the urethra be morbidly sensitive when catheterism is undertaken, the beak of the sound having reached the bulb, may excite spasmodic contraction of the muscular loop just described, and so be prevented from advancing sufficiently to accommodate itself to this abrupter curve, and from passing farther onwards. Unquestionably this spasm will press the lateral walls of the membranous portion against one another, and still more the posterior against the anterior; yet it will be free, or nearly so, to yield to a force acting from within outwards.

The distinction here drawn I look upon as not unimportant; for if the canal were in truth contracted by the spasm of muscular fibres entering into the composition of its parietes, they would indeed diminish its circumference for the entire duration of the spasm, and oppose an actual resistance to the passage of instruments in every direction; but on the contrary, when the stoppage is produced by a muscle external to the urethra, and not binding it in the whole circumference, then, carrying the instrument towards the wall not pressed upon, will suffice to open a passage through the canal. Thus I have several times remarked, in subjects with irritable urethra, that a straight sound, though very small and flexible, has been incapable of entering the membranous portion; but on bending its extremity, or by using a sound of fixed curve, I have passed with facility the spot which at first seemed contracted. In some cases, where the ordinary curve did not appear sufficient to follow the membranous portion, drawn forward as it was, I have succeeded with my own bent sound †; and one can readily

* Ségalas, Traité des Retreciss. d'Ur. p. 63.—Amussat, loc. cit.—Leroy d'Etiolles, Lettres et Mem. p. 124.

† Begin et Lallemand, Dict. de Med. et Chir. Prat. t. xiv. p. 12.—Civiale, loc. cit.

‡ Rech. sur les Mal. Urin. des Hommes agés, p. 34.

* Med. Chir. Trans. vol. i.

† The shank of this sound is straight, and forms nearly a right angle with its beak, which is only five or six lines long.—Vide Recherches sur les Malad. Urin. des Hommes agés, p. 357, 315.

understand how its strong curve adapts itself admirably to the deviation of the urethra; and how, when once engaged in its ascending portion, it can always overcome the resistance of the contracted arch of muscle; for as it is not the beak, but the heel of the instrument, which acts against this resistance, we need not fear false passages, and can always employ sufficient force. But the deviation I have described cannot explain the retention of urine we attribute to spasm of the membranous portion; for how can we suppose that the urine, urged by the contraction of the bladder and abdominal muscles, and having once reached the membranous portion, should not succeed in parting the parietes of the canal which are merely applied to one another, and traversing a point where a large sound, if well directed, seldom fails in passing. If retention of urine could be caused by simple spasm of the membrnous portion, retention of semen ought to be still more frequent; yet we find the latter very rarely, even in cases where spasm and organic stricture simultaneously exist. In men affected with dysuria from excessive irritability of the urethra, the semen often is discharged with pain, perhaps with difficulty—yet it *is* discharged; although its consistence is much greater than that of the urine, it collects in less quantity; every thing evinces that it is driven onward with less energetic forces, and, finally, its evacuation is effected in circumstances much more likely to bring into play that excess of contractility so frequently the cause of retention of urine*. This remark alone, then, affords ground for believing that the cause of spasmodic retention is behind the orifices of the ejaculatory ducts; yet it is not likely to be in the prostatic region of the urethra, which is enclosed between the lobes of a compact gland, and incapable of spasmodic contraction, though, indeed, subject to lateral compression by those fasciculi of the levatores ani which act on the prostate: such compression, however, could neither be sufficiently strong nor continued of itself to produce actual retention.

As to the neck of the bladder, it may close spasmodically, but not by stricture properly so called. I have formerly stated that its sphincter is not circular, but principally composed of muscular fibres, embracing the posterior borders of the orifice in their concavity, and inserted into the anterior wall of the bladder; hence the closure of this orifice is effected by traction of its posterior margin forwards—that is to say, by the creation of a kind of valve attached laterally and behind, and projecting beneath the anterior margin. This confirmation explains how anatomists almost all agree in describing the urethral orifice of the bladder as not circular, but approaching more or less the shape of a crescent placed transversely; and how, whilst the injections we force into the prostatic region pass easily into the bladder, the latter, on the contrary, confines the urine with so little effort and participation of our will. Can we conceive the urine to be retained with so much facility and for so long a period, if, whilst compressed by all the forces which habitually act upon it, the bladder were closed merely in the same way as the anus? The effects of diarrhœa, or of a clyster, when the person to whom it has been administered stands so that it cannot diffuse itself along the superior parts of the large intestine, will furnish a sufficient reply; and yet how great is the difference between the strength of the double sphincter ani and the sphincter of the bladder—a structure so pale, that its muscularity, and so small that its existence, has been called in question. Compare the force necessary to make an elastic sound penetrate the anus of a person who struggles against the desire to return a clyster, with that required to make it pass the neck of the bladder in a man resisting the desire of micturition; in the former case a considerable effort is needful; in the latter, so little, that in exploring the bladder one is often uncertain whether the instrument have reached that cavity or not. On the theory that the bladder is closed by a valve or flap, it is clear how so feeble a contraction suffices; for it is merely necessary to maintain this valve tense, and the urine, so to speak, is retained by the very effort it makes to escape.

But how is the excretion of the urine effected? Very simply: both the distension and contraction of the bladder tend to separate the different points of its neck from one another, and of consequence to draw back the valve; and I have elsewhere described a plane of longitudinal muscular fibres which appear to me confined to this function: when, therefore, the inverted arch of muscle which raises the valve into prominence ceases to contract, this valve will obey the forces which retract it, and the orifice will become patent.

But if there be an irritable spot in the

* Yet I treated a man for valvular obstruction within the neck of the bladder, who for many years never emitted semen externally, though he had frequently the sensation of emission; and I found in his urethra only that spasm of which the valvular obstruction was the effect. It is true we could not determine whether the urine were ever mixed with seminal fluid. Cockburn (Obs. of the Med. Soc. of Edinb. vol. i. p. 394) knew a man who had emissions during sleep, but not in coitus, and recommended him gentle evacuants and a restricted diet: are we, with that author, to ascribe this circumstance to too energetic erection during coitus, or to spasm of the muscles compressing the membranous portion? I rather incline to the latter opinion.

vicinity, as in the prostatic region of the urethra, or the trigone of the bladder, or should some rheumatic or other morbid disposition arise in this place; the muscular arch in question may then become the seat of spasm, and (the valve being thus rendered incapable of relaxation) not only will retention of urine occur, but the difficulty of raising the valve will increase as the pressure of the urine on its superior surface is augmented; and hence the generally acknowledged fact, that a sound penetrates the bladder with greater difficulty the more that organ is distended. But on careful observation, it is plainly more essential to impart a good direction, than much force to the instrument; for if we present its beak perpendicularly to the inferior surface of the operculum, we shall have to overcome, not only the contraction of the muscular fasciculus, which keeps it tense, but likewise the pressure of the urine, to which, in many cases, spasmodic contractions of the body of the bladder and abdominal muscles are added. The valve is therefore more readily pierced than displaced; and every one knows that false passages at the posterior part of the entrance of the bladder are extremely common. But if, instead of attacking the obstacle by main force, we endeavour to evade it—that is to say, if, having reached the entrance of the bladder, we advance the beak of the sound firmly toward the symphysis pubis, to the margin of the valve, the slightest effort to pass it will suffice.

To recapitulate: the parietes of the urethra have not, I believe, any muscular fibres in their composition which can really contract them; they are, at the perinæal portion, in relation with muscles; but these are so disposed as merely to produce a flattening or a deviation of the canal, and not actual stricture. In the region of the bulb, the bulbo cavernosis [accelerator urinæ] can only flatten it from below upwards; in the membranous portion, the fasciculi termed Wilson's muscles displace it forwards, flattening it especially in the antero-posterior direction; in the prostatic region, the superior portions of the same fasciculi compress and flatten it laterally; and at the neck of the bladder the sphincter carries it forward, giving to the orifice a transverse form. Thus the deep part of the urethra, including the bulbous, undergoes, from the spasmodic contraction of the muscles surrounding it, alternate flattening and deviations which make it resemble (in a rough comparison) the Greek capital Σ, of which the horizontal branches represent the valve of the neck and the bulbous, whilst the central portions represent the prostatic and membranous regions.

Finally, then, spasmodic *stricture* does not exist, but only spasmodic deviation of the urethra; the flattening may impede the progress of sounds, but it cannot form a very serious obstacle when the instrument is advanced in a proper direction: but this essential catheterism should always be commenced with a flexible sound of fixed curvature, or with an elastic straight sound, sufficiently curved at the extremity. If we cannot reach the bladder in this way, we shall almost certainly succeed by the use of my bent sound, if handled according to the rules laid down in my preceding publications*. When we depress the handle of this instrument, to enter the ascending part of the canal, its beak is carried forward in the direction of the deviation, and its heel presses down the obstruction.

I will not here stay to inquire into the causes which excite spasmodic deviation of the urethra, nor into the method of treating them; for I should but reiterate what is explained at length in the work just referred to.

### *Of so-called inflammatory strictures of the Urethra.*

A stricture of this kind has been thought to exist, when retention of urine has supervened in the course of an acute attack of urethritis; and swelling of the urethra, sufficient to obliterate its channel, has been assumed as the cause; but I apprehend that the interpretation of facts on which the opinion is founded, has not been invariably and perfectly correct.

That more or less considerable afflux of blood to the parietes of the urethra may diminish its calibre, cannot admit of doubt; but it is less certain that vascular turgescence can obliterate it so completely as to prevent the percolation of the urine. Were it so, we should observe the phenomenon most frequently in the spongy portion; because this is the ordinary seat of blenorrhagia; and also for that its structure is especially prone to sanguineous congestion; yet I have sometimes passed the catheter in cases of retention from blenorrhagia, and can only state that the instrument experiences no serious obstruction in that region. Again, in erection, it most obviously becomes the seat of congestion, and I have had many cases in which the penis was so sensitive that the least touch excited erection, but have never remarked any serious difficulty in the passage of the sound hence result.

If we observe carefully, we shall find that, setting aside complications, it is only when inflammation has reached the neck of the bladder that actual retention accompanies blenorrhagia. Now it is likewise precisely in the deep parts that catheterism has, with me, presented some difficulties, and these have been such as have appeared rather

* See particularly, "Rech. sur une cause peu connue de Ret. d'Urine," p. 189.

attributable to spasm of the neighbouring muscles than to swelling of the tissues and structure of the urethra itself. I leave out of the question, for the present, those cases in which the urine is stopped by an abscess formed in the walls of the canal or its neighbourhood, creating a projection within it; for these cases are not meant by surgeons when speaking of inflammatory stricture. "Nothing," says M. Ricord, "is more common than to meet with dysuria in its different degrees, even to more or less complete retention, in cases of urethritis at the acute stage; and this, sometimes from the first, giving place to what we call inflammatory strictures. These strictures are the consequence of a kind of phlegmonous engorgement, or of œdematous infiltration of the submucous cellular tissue, and they disappear when the acute stage ceases *."

Has anatomy ever demonstrated engorgement or œdema of the submucous cellular tissue, to such an extent as to obliterate the canal? I think not. Moreover, it is not probable that engorgement of the parietes of the urethra, sufficiently considerable to impede and even arrest the course of the urine, should be so common, and so constantly terminate in resolution, as the passage I have quoted would imply. No doubt dysuria in various degrees is very frequent in acute urethritis; but when a patient, the subject of this disease, is obliged to make water, and yet cannot, from mere apprehension of the pain he must undergo, is it to swelling of the parietes of the urethra that the difficulty he experiences is then due? It must be ascribed, on the contrary, to spasm of the muscles which act on the deeper parts of the canal; and of this the patients themselves are fully aware. Now what happens in slight inflammations becomes more marked in severe cases, and especially when inflammation has gained the neck of the bladder; yet is the phenomenon always the same, and I question whether, even in cases of retention complicated with phlegmonous tumors in the parietes of the urethra, the spasm of which I have spoken does not sometimes play an important part. Doubtless, cases in which the urine escapes after the artificial or spontaneous opening of these tumors may be cited; but does not this circumstance indicate rather that the inflammatory action has experienced a salutary check, and that nature has become conscious of the disappearance of the obstacle, &c.? Does not a sound passed down to a stricture frequently suffice to produce micturition? Do we often see the urethra distended by the impulse of the urine behind abscesses of this kind? The result of my own experience, at least, is otherwise.

* Hunter's Works (French edition), vol. ii. p. 300, Note.

Thus inflammatory strictures, though in reality existing, do not deserve, in my opinion, a separate place in the nosology; because, when alone and uncomplicated, they neither involve peculiar circumstances nor require special treatment. The retention so frequently accompanying acute urethritis, should be referred, save in some exceptional cases, to spasmodic contraction of the muscles surrounding the urethra; and consequently it falls into the class of phenomena described in the preceding chapter: it has no other distinctive character, demanding peculiar treatment, than the acuteness of the cause producing it.

M. Amussat, with me, rejects this class of strictures, but on a different account;—according to him, they do not deserve the name, because only temporary *.

[To be continued.]

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### APOPLEXY IN THE FŒTUS AND NEW-BORN CHILD.

M. Lasserre has lately shown that the fœtus and new-born child are subject to cerebral hæmorrhage like individuals who are more advanced in life. The effusion presents exactly the same anatomical characters. The first case which he observed was one of meningeal apoplexy, in which there were nearly one hundred grains of viscid blood effused into the cavity of the tunica arachnoides. The child was mature, and was born dead. M. Lasserre ascribed the effusion to pressure on the cord during labour, whereby the utero-fœtal circulation became interrupted. In the second case, effusion had taken place into the ventricles. The fœtus had reached five months and a half, and was born in a putrefied state. The blood, which filled the whole of the four ventricles, was in smooth, polished, irregular, but moderately firm coagula. In a third case, apoplectic effusion had occurred in the posterior part of the left hemisphere in a new-born child. This was followed by encephalo-meningitis. M. Lasserre concludes from the facts which have fallen under his observation, that cerebral apoplexy does not give rise to the same symptoms or produce the same functional disorder in the new-born child, as in the adult. In his opinion, also, it is not so speedily fatal.—*Journal de Médecine de Toulouse, et Gazette Medico-Chirurgicale*, Fevrier 7, 1846.

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I used to wonder why people should be so fond of the company of their physician, till I recollected that he is the only person with whom one dares to talk continually of oneself without interruption, contradiction, or censure.—*Mrs. H. More.*

* Lect. sur les Ret. d'Urine, p. 11.

## Original Communications.

### CASES OF INJURIES CAUSED BY THE EXPLOSION OF GUNPOWDER.

By R. A. Stafford, F.R.C.S.
Surgeon to the St. Marylebone Infirmary.

Ann Peachey, æt. 15, a servant, was admitted into the St. Marylebone Infirmary on the 16th of June, 1845. About ten minutes previous to her admission, she had been nursing an infant, and had a flask containing a considerable quantity of gunpowder in her hand. It is supposed that she had been amusing herself by igniting small quantities of the powder with lucifer-matches, when the flame came in contact with the flask, and a loud explosion immediately took place, bursting out the windows of the kitchen where it occurred. The infant was blown out of the girl's arms, and blackened with the powder, but, strange to say, most providentially escaped wholly uninjured. The accident having occurred in the immediate neighbourhood, she was brought instantly to the Infirmary, and was in a delirious state. As soon as the blood and powder could be washed from her face and hands, it was perceived that both hands were seriously injured, but particularly the thumbs. The left was completely thrown back on the wrist, being dislocated at the first phalanx, and only attached to the hand by a small portion of integument; the right thumb was not dislocated, but the muscles of the ball of the thumb were torn from their attachments, and hanging in shreds, forming a large fleshy mass. The left thumb was brought into its proper situation, and secured there by strips of adhesive plaster and wet lint; the right thumb was also secured in its proper position by the same means, as much of the ragged muscular mass as possible being retained, and covered by the integument; but still there remained a mass of ragged muscle as large as a walnut, which could not be covered. Many of the fingers were lacerated or torn, but no joints dislocated or bones broken. The girl was much burnt about the arms, neck, and face. She had also a circular wound in the cheek about the size of a five-shilling piece. The edges of this wound were approximated by sutures and adhesive plaster. The hair, the eyebrows, and eyelids were singed. She had previously lost the sight of one eye, and this was injured by the explosion; whilst the sound eye was uninjured, except from the mechanical friction of some particles of powder which had got within the eyelids. She was sent to bed, and ordered some cooling medicine. The hands were not dressed again for three days, when they began to be painful. They were then dressed in the same manner as at first, with wet lint and adhesive plaster, and they were retained in their position by a bandage. From this time (about seven or eight days) the delirium gradually left her; the fever abated, the pulse became quiet, and suppuration went on kindly. The wounds put on a healthy appearance, and the union by the first intention was tolerably complete. But little sloughing, considering the extent of the injury, and the parts involved in it, took place.

On the 5th of August, she was discharged, all the wounds being then healed. The thumbs were still tender; she had regained the partial use of the right thumb; the left she could move a little, but it was stiff at the joints.

This is a most remarkable case; the joint of the first phalanx of the thumb being completely dislocated, and only hanging by integument; the capsular ligament and other ligaments being torn and lacerated, and yet that the thumb should have been saved, and union by the first intention should have been so completely effected, is what could have been hardly expected. It shows that we ought never, under any reasonable circumstances, to neglect to give a wound the opportunity of healing by the first intention. It was intended at first to excise the ragged mass of muscle on the right thumb, but, from the delirious state of the girl, it was thought better not to run the risk of any further hæmorrhage; indeed, unless there are good reasons for it, such as assisting cut surfaces in uniting, &c. it is generally better not to remove any portion of flesh. Nature herself usually throws off parts she cannot heal, and this happens to be a peculiar instance of it. On dressing the wound a few days after the accident, it was seen that the mass of muscle was endowed with life, and that only the ragged edges were

sloughing off. Under these circumstances it was thought more advisable to preserve it, and, by pressure, to restore it as nearly as possible to its natural place. This was done, and the ball of the thumb, when healed, was only lower than in its normal state. Its movements, however, proved that the whole of the muscular power was not lost. Considering the nature of the accident, it is only surprising that tetanus did not supervene.

This patient has been seen very lately, and she has tolerably good use of both thumbs, but more particularly of the right.

Case II.—John ——, a servant, had been in the habit of shooting rats. One day, a particularly large one, which he had long watched, made its appearance. He immediately charged the gun, and in his hurry to get a shot at it before it escaped, which it usually did, he only rammed the wadding half way down the barrel. He fired, and the gun burst with a terrible explosion. His thumb on the left hand was blown off at the first phalanx. Mr. Stafford saw him, and found that the bone was splintered, and that the muscles of the ball of the thumb were torn into shreds. There was but little or no hæmorrhage. The wound was very much blackened by gunpowder, which of course was washed off. The points of the broken bone were angular, and the flesh surrounding it excessively ragged. Mr. S. sawed off the angles, and pared off the ragged edges. He brought them as much as possible into apposition, as in amputation, and employed adhesive plaster, lint, a bandage, &c. to keep the parts together. Very little or no pain was felt afterwards, and therefore the dressing was not removed until the eighth day. On taking off the adhesive plaster, &c. it was found that the cut surfaces had united, and there was but little discharge. The wound was again dressed in the same manner, and in a month or six weeks from the accident, the man was well, excepting the loss of his thumb.

This case points out the advantage of sawing off angular points of bone, and of paring off the ragged edges of torn parts, and bringing their surfaces into apposition. If the thumb had been purposely amputated the stump could not have healed more kindly.

CASES ILLUSTRATIVE OF, AND REMARKS UPON THE

## PATHOLOGY OF OXALATE OF LIME IN THE URINE.

By J. H. Stallard, Esq.

Surgeon to the Leicester General Dispensary, &c.

### Case IV.

This case, if related in detail, would occupy so much of your valuable space, that I shall content myself with describing its most prominent features.

Mr. J. S. S. æt. 21, bilio-nervous temperament, had enjoyed most excellent health until the last two years: his habits were at that time much altered; from much exercise he then took scarcely any, and from regularity of living he became seriously irregular, and at this time also he indulged in the smoking of tobacco to great excess.

The consequence of this mode of life, not immediately felt or observed, came on in the form of gradually increasing debility. The appetite required spiced meats, the stomach became uneasy after food, the mind could not be fixed with attention upon the subjects of study, and the memory became less retentive. At length, about Easter last, a diarrhœa came on, for which his surgeon ordered tonics and Port wine, with a more strict attention to diet and regimen; but notwithstanding every effort it continued, and he returned to his home with the hopes that change would restore the disordered functions to health. He now took the usual remedies, and adhered most strictly to a simple yet nourishing diet; but notwithstanding every endeavour the symptoms continued to grow worse; he usually passed two liquid and flatulent motions daily; and with the exception of a slight griping of the bowels and a sensation of fulness which came on after dinner, he complained of no acute pain, but rather great listlessness of mind, and a gradually sinking of bodily strength. In August, he came more especially under my care. I examined the bowels: when empty they were not tender in any part: a small prominence was observed in front of the aorta, the nature of which was ob-

scure, though the symptoms led to some suspicion of diseased mesentery. I recommended removal to the south coast, and with the concurrence of some medical friends he took alteratives with the compound decoction of sarsaparilla. After six weeks he wrote me as follows; and I may observe that he assured me the symptoms now detailed had all been upon him for a very long time, but in a less marked degree. "On getting into bed I sleep well during the first part of the night; during the latter half I am often rather fevered, and on awaking (generally on my back), I experience no pain or uncomfortableness, which generally comes on when I turn on either side; I then hear gurgling rushes of wind and fluid about the bowels, and sometimes I experience a spasmodic desire to evacuate their contents, which if indulged in causes great exhaustion and languor. I seldom feel any pain after breakfast, at which time I usually pass a motion, liquid, flatulent like barm, or if my meals have been exceedingly simple it is of a dark-brown colour. My appetite is good, but I find difficulty in masticating solid food, from a scanty flow of saliva. Half an hour after dinner I feel increased pain of the bowels, lasting three, four, or five hours. It is a sense of fulness and occasional soreness about the stomach or colon. I feel as though it were produced by the presence of undigested and irritating food, and I do not get relief until the bowels are evacuated before going to bed. The exertion of dressing or walking quickly, or a sudden change of temperature, causes cough to last for two or three minutes. I have had this cough eight or ten months at least, long before the disorder of the bowels made its appearance."

On his return home he was thinner and weaker, and I have nothing to add to the foregoing except my observation as to his urine, which was scanty, high coloured, depositing much lithate of ammonia, and after careful washing I found octohedra of oxalate of lime in great abundance. Drs. Prout and Watson were now (Oct. 24th) consulted; both thought the case hopeless. The former observed that there must be great disorder of the primary assimilating processes, and the latter, while he confirmed my opinion as to the state of the lungs, thought there was ulceration of the bowels. As ye there were no very clear indications of confirmed phthisis; the sound elicited by percussion was tolerably good, and vesicular breathing was heard over the whole of both lungs, but the expiratory murmur, which was very loud, the existence of bronchophony, and a peculiar sound heard with each systole of the heart opposite the sternal articulation of the left second rib, together with the cough before noted, led to serious apprehensions that the lungs would soon give way.

Dr. Watson thought that there was ulceration of the bowels, from the character of the evacuations and their uncontrolable state, although no blood or pus had ever been observed. In consequence of this opinion, I examined the fæces microscopically, and on every occasion I discovered numerous minute portions of mucous membrane; sometimes a single follicle, at other times an aggregation of them. I shall now quote the diary for one day, that I may give an accurate analysis of the urine in connection with it.

9h. 45m.—Got up and passed a small quantity of urine.

10h. 15m.—Arrow-root with a small quantity of port-wine with toast.

10h. 30m. — Hydrarg. c. Cretâ, gt. iij.; Pulv. Doveri, gr. v.

2h. 30m. — Chicken panada with toast.

4h. 15m.—Medicine as before.

5h. 30m.—Coffee.

6h.—Passed a flatulent evacuation, but it was more bilious and natural than usual.

10h.—Medicine as before.

10h. 15m.—Tapioca and Port-wine.

A small quantity of urine was passed with the motion, and from six to half-past ten, when he went to bed, he secreted 1200 grs., sp. gr. 1030. Acid very turbid.

*Analysis.*

| | |
|---|---|
| Water | 921·2 |
| Solid matters | 78·8 |
| Urea | 24·45 |
| Uric acid | 2·92 |
| Oxalate of lime | ·44 |
| Indeterminate organic matter | 44·79 |
| Saline matters | 6·2 |
| | 78·8 |

During the night he had a severe attack of cough, with much borborigmi,

and griping pain. He passed 2700 gr. of urine early in the morning, acid, sp. gr. 1024, of a deep red colour, not turbid. A few granules of lithic acid were voided.

*Analysis.*

| | |
|---|---|
| Water . . . . . | 931· |
| Solid matters. . . . | 69· |
| Urea . . . . . | 14·05 |
| Uric acid . . . . | 1·32 |
| Oxalate of lime . . . | ·12 |
| Indeterminate organic matters . | 49·11 |
| Soluble salts . . . | 3·8 |
| Insoluble do. . . . | ·6 |
| | 69· |

From the foregoing analyses I deduce the following table:—

| | In 15 hours. | In 24 hours. |
|---|---|---|
| Weight of urine . . . | 3900 grs. | 6240 |
| Do. urea . . . | 67·27 | 107·63 |
| Do. uric acid . . . | 7·06 | 11·25 |
| Do. indeterminate organic matter . . | 186·33 | 298·1 |

On the 9th of November he took cold from exposure, and the cough much increased; expectoration was very copious, and phthisis ran its rapid course in about nineteen days. The post-mortem examination revealed extensive ulceration of small and large intestines; from their appearance disease must have been long going on. The mesenteric glands were very large, and filled with cheesy matter. The kidneys were united in front of the spine, forming the prominence observed during life. The lungs were one mass of tubercle, and many small, and some extensive, cavities had been formed.

The observations which this case elicits are few but important. The obscurity of ulceration of the intestines, especially in its earliest stage, demands from us the most careful attention. How often is it that in fever we discover after death ulceration of the ileum, of which during life no symptoms, or at least most obscure ones, have indicated its presence; and if there is this difficulty when the disease, as it not unfrequently does, pursues a rapid course, how much more so when the approach and progress is essentially chronic, as it was in the foregoing case. The microscopic characters of the fæces particularly deserve attention, as in this instance they confirmed in a remarkable manner the opinion of Dr. Watson, that there was ulceration of the bowels, which examination after death fully proved. That the microscope will form an uniform and certain means of diagnosis has yet to be proved; the present is a suggestion founded entirely on the foregoing case, but I would have it applied in every case of suspected ulceration, knowing that our patient inquiries will elicit a correct answer. I shall reserve my remarks upon the state of the urine for a future occasion.

[To be continued.]

### TREATMENT OF PSORIASIS.

Mr. Waddington, of Margate, states, that after a long experience in the treatment of psoriasis diffusa, or palmaria, he has found the best treatment to consist in the application of cocoa-nut oil, diluted with equal portions of ung. cetacei.

The affected parts should be washed every night and morning with tepid *rain* water; then made quite dry, and the ointment applied lightly (with a camel-hair brush); over this, oiled silk should constantly be worn.

The pilul. hydr. sub. comp. (Plummer's pill) gr. x. each night at bed-time, with liq. potassæ, ℥xx., three times a day, are considered by Mr. Waddington to be among the best *internal* means of treating psoriasis diffusa, joined with great care as regards regimen: no salted meats, no shell-fish, no fermented liquors, no acids: the less fruit and vegetables the better.—*Lancet.*

### EFFECT OF CLIMATE, ETC., IN THE TREATMENT OF DIABETES. BY KEITH IMRAY, M.D.

Perhaps the treatment of ascites by an animal diet has met with more success, at least as a palliative, than any other; and it would probably be still more successful if it could be rigidly followed up, which is next to an impossibility. The use of opium is another useful palliative. Diaphoretics are especially indicated by the dry parched skin which so generally exists, and which is often one of the earliest symptoms. A return of the natural functions of the skin is also one of the earliest symptoms of amendment. This was remarked many years ago by Dr. Christie, who found the disease much more manageable in Ceylon than in this country. It is, moreover, seldom seen in very warm climates. Dr. William Hunter, during a long residence in Bengal, never saw a case; and Dr. Imray, during a residence of seven years in the West Indies, never saw or heard of a case commencing there. From several cases which this gentleman has published, we should say that a residence in a very warm climate is a most powerful means of restoring the healthy function of the skin, and curing the disease.—*Edinburgh Medical and Surgical Journal.*

## PRACTICAL OBSERVATIONS ON VARIOUS FORMS OF DYSPEPSIA.

By Robert Dick, M.D.
Author of a Treatise on the "Derangements, Primary and Reflex, of the Organs of Digestion, with an Addition," "Treatise on Diet," &c.

[Continued from p. 1027 of the last volume.]

Having thus considered the subject of primary and secondary assimilation, and its derangements, we shall now devote a few words to the treatment of indigestion in its complicated forms, namely, when it has given rise to derangements in distant organs. It may simplify this part of the subject, to state, at the outset, the general principles which, in these circumstances, must guide our measures. It is clear that the best way of curing the secondary, is by removing the primary affection: that, consequently, when directing our efforts to dissipate the dyspeptic derangements, we are in reality, though indirectly, acting against the lesions secondarily induced by it elsewhere. Accordingly, in all cases in which the secondary affection is of urgency and importance, measures directed to the original disease must ever constitute a part, and a considerable one, of the treatment. But secondary affections are sometimes so serious, so pressing, and involving such important organs, that to make their relief dependent altogether on the issue of measures directed to the original disease, would be to hazard imminently the life of the patient. For it seems certain, that chronic dyspeptic derangement may occasionally give rise, or dispose to, disease more urgent than itself. When this happens, *two series* of treatment must often be simultaneously pursued; the treatment of the secondary affection being grafted on that of the primary. This, I say, must often be done, it being not *always* necessary. When the secondary affection is trifling, transient, purely functional, it may not be necessary to hurry to measures distinct from those addressed to the original disease; but when the heart, lungs, brain, or spinal cord, betrays marked and persistent derangement, separate measures must be adopted.

In such circumstances we are sometimes under the necessity, on account of the secondary affection, of acting on the digestive organs in a way which we would avoid doing had we only the primary affection, or simple indigestion, to contend with. Thus, for a congestive headache, or for suspicious thoracic symptom, we are occasionally compelled to administer powerful and debilitating purgatives. This is, however, a necessity to be avoided, if possible, and one, oftener than we might suppose, possible to be avoided: since the secondary affections are, in general, not so rapid as when occurring, primarily, in undebilitated constitutions. Chronic indigestion seems to give to morbid action the same indolent and feeble character which it induces in organs still comparatively healthy.

If the treatment of the primary affection, previous to the incidence of the secondary one, has been judicious, it is obvious that no alteration is required as regards that; all which is necessary is to superinduce the additional means required by the latter, and to redouble our attention. One circumstance demands notice. No advantage is derived to the secondary affection from the continued use of any medicine or plan of treatment, which aggravates the primary derangement. This is too obvious to require illustration. Digitalis, elaterium, colchicum, nux vomica, squills, though useful in anasarca and ascites, in gout, in paralysis, and pulmonary disease respectively, provided these organs are so prepared, or these medicines so combined, that no gastric excitement follows their employment, will, without these precautions, severally do harm; will both derange the assimilating surfaces, and likewise augment the dropsy, the arthritic, the paralytic, the pulmonary affection, in consequence of the febrile excitement they will induce; by which cutaneous transpiration is interrupted, and other constitutional disturbances created. Cases illustrating the justice of these observations must frequently present themselves to practitioners. Hence, the treatment of dyspeptic disease, when involving secondary affections, is somewhat nice and complex, and affords a more than ordinary opportunity for the display of genius and invention on the part of the physician.

### *Functional and Structural Disease of the Heart, in connexion with Derangement of the Digestive Organs.*

I believe that the only mode in which

stomach complaint *directly* affects the heart, is a mechanical one, to wit, by means of the distension which enormous meals of solids and liquids, soups, fish, flesh, beer, wine, soda water, coffee, tea, all at a sitting, and the almost necessary flatulence, may cause, and by which, more especially if sleep is soon after indulged in, the diaphragm may be pressed up, and the heart's action impeded, but particularly the aorta may be seriously oppressed by the superjacent loaded stomach; and hence, the current of blood being opposed, the right ventricle is compelled unduly to exert itself. In this way I believe chronic gluttony may induce hypertrophy of the ventricle, nay, even aneurism of the aorta. In fact, I have witnessed cases, the history of which I believe to have been no other than this. I have also sometimes suspected that the palpitations which occasionally accompany prolonged derangements of the stomach, liver, and bowels, may be owing to a preternaturally impure, and perhaps even acrid character of the portal circulation, and the impinging of a current of such blood against the internal lining membrane of the cava inferior and left auricle. But this idea has, of course, the value of mere conjecture. The only other modes in which dyspeptic derangements can affect the heart, are extremely circuitous. The one is by the channel of nerves, through, as I have already remarked, the intercommunion of the various parts of the sympathetic; the splanchnic nerve being the medium of transmitting irritation to one part of the ganglionic circle, the cardiac nerves reflecting it on the heart; or the par vagum may be the channel. A third mode in which chronic digestive derangements may affect the heart, is by the production of disorders of primary assimilation, by which constitutional complaints, such as gout, are induced, in the course of which the membrano-cartilaginous tissues of the heart may be structurally affected. Rules cannot be laid down for the treatment of such cases. The practitioner must discover and apply them for himself, in respect of each particular case. The palpitations due to inordinate meals, and to the injudicious use of flatulent articles, have an obvious remedy.

*Pulmonary Affections caused by Dyspeptic Derangements.*

This may appear in one or all of three ways:—

1. By the propagation of inflammatory irritation along tissues common to both organs. This propagation may take place up the œsophagus and down the trachea; more circuitously, at least more obscurely, along the hepatic veins, lower cava, right auricle and ventricle, pulmonary artery; for it is easy to conceive how the blood, passing directly from an inflamed and morbid liver, may perniciously affect an organ of a structure and function so peculiar as that of the lungs. Of course, in this case, all attention must be given to quiet the digestive mucous surfaces.

2. Chronic digestive derangements may induce pulmonary disease, by causing a general and chronic febrile excitement, by which, more especially if there is predisposition to chest affections, sudden and formidable disease of the lungs may be occasioned. It is a just remark of Andral, that it is necessary to watch, with the utmost jealousy, the slightest colds and pectoral symptoms of dyspeptics, since it is wonderful how insidiously the secondary pulmonary affection may grow into alarming independent disease.

A third and equally indirect mode in which protracted derangement of the assimilative organs, and of assimilation, may induce pulmonary disease, is one we have already referred to, in which, to requote Dr. Prout's expressions, "the imperfectly assimilated chyle, in passing through the lacteal system, either does not undergo the necessary changes by which chyle is converted into blood; or is malconverted into the comparatively insoluble pseudo-albuminous matter of struma, which, in passing through the lungs, lays the foundation, perhaps at first mechanically, of tuberculous deposition and future accretion*." (Stomach and

* Pulmonary tubercle is probably various in its mode of formation as in its seat: being first formed now in the areolar tissue, now in the cells. As Dr. Prout seems to state, the granular and apparently nucleolar formation, is often posterior to the deposition of the tubercular matter. "Die tuberculöse infiltration besteht in der verwandlung einer unbestimmt begränzten grösseren parthie des lungasgewebes in tuberculöse kässige masse: die infiltration ist nicht erst aus dem zutammen-fliessen isolirter tuberkörner (durch aggregation) anstanden die

Renal Diseases, p. 490.) This is a critical complication, requiring great judgment and promptitude on the part of the practitioner.

*Affections of the Brain and Spinal Cord, induced by Derangements of the Digestive Organs.*

The nerves of organic life may exhaust or irritate the spinal cord all along its tract, and through it the brain. The par vagum may more directly still produce a like effect.

Some recent writers on derangements of the digestive organs, and on the tendency of these to produce secondary affections, have too exclusively imputed the disorder of the brain, consequent on stomach complaints, to hyperæmia. Andral, in various parts of his works, makes observations corrective of this. "You will observe," he says, "sometimes the same symptoms in two individuals, the one of whom has his brain congested, the other anæmic." A recent practical writer observes: "it must be borne in mind, that the process of digestion is one of hyperæmia, or of active congestion of the mucous membrane of the stomach. This active congestion is repeated or reproduced in the brain in two ways, by the direct action of one organ on the other, or through the intervention of the heart. This state of stomach produces corresponding congestion of the brain," &c. This writer always assumes that what he calls active congestion is a natural state of the healthy stomach, and equally that "a corresponding congestion of the brain," healthy or not, necessarily takes place. I question both affirmations, particularly the latter. And I apprehend that many of the phenomena supposed unquestionably due to cerebral congestion consequent on digestive activity of the stomach, are to be imputed to other causes. This may be illustrated by a somewhat analogous case. A patient of Dr. Sweatman's had kept the horizontal posture ten years. If she sat up for a short time she fainted: yet, during this period she had borne children, and appeared in health. Dr. S., on examining the patient, found immense varices in the veins of her legs, into which, when she stood up, an immense quantity of blood gravitated, which was the cause of the deliquium. She was cured by her legs being bandaged. Now I apprehend that the drowsiness, the temporary hebetude, which are stated by the gentleman just referred to as infallible proofs of an hyperæmic state of the brain, consequent on a corresponding state of the stomach, during the digestive process, are, I shall not say always, but frequently, due to a condition of the nervous power, and of its circulating fluids, analogous to what took place in the case of this lady. It is to the concourse of blood towards the stomach, liver, and intestines, and the consequent subduction of it from the cerebrum, but perhaps more particularly to a subduction of nervous power and activity, analogous to that of the blood, from the brain to the stomach, there to supply the additional amount of nervous power required during digestion, that drowsiness and other cerebral symptoms noticed at this period are chiefly due. Chronic dyspeptics do not usually superabound with blood; and why or how the brain, unless disposed to disease, should become hyperæmic simultaneously with the digesting stomach, is not easy to see; while it is, on the other hand, obvious, that it would require considerable general plethora to admit of these organs being simultaneously hyperæmic. It is, moreover, to be kept in mind, that chronic dyspeptics are usually, from bitter experience, extremely circumspect in diet; though, indeed, there are many exceptions to this. I am, therefore, disposed to explain the cerebral excitement or fulness, occasionally accompanying digestion or dyspeptic derangements, as caused through the medium of the sympathetic; the ultimate branches of which, netted on all the minute twigs of the carotids, and entering with these into the inmost recesses of the brain, may produce singular irregularities of the function and circulation of that organ. Congestion of the brain, even effusions in it, pains, throbbings, and lesion or anomalous action of the sensal organs, may each have the source now indicated.

In all such cases the liver must re-

granulationen entwickeln sich oft erst spöter aus der infiltration." Canstall's Handbuch der medicinischen Klinik, page 812. Consult also Rokitanski, Hasse, &c.

ceive attention, and this point is of the more importance, as usually, when the liver acts inefficiently, the kidney also does so. A free state of the digestive surfaces will in most cases go far to relieve the sympathetic affections of the cerebro-spinal organs, which depend on moderate plethora and irritable congestion. Ipecacuanha joined to mild purgatives, and administered for some time, is conspicuously advantageous here. If great irritability of the gastric organs is present, and we have reason to conjecture that the ganglionic nerves participate in this state, as proved by cardiac palpitations, oppressed or accelerated respiration, headache, &c. then hyoscyamus, camphor, ipecacuan, must be freely given: the bowels being kept in lax but not draining action. If the bowels and kidney, by the means directed for the purpose, act with tolerable freedom, we need not insist on a sensibly perspiring state of the skin. Yet a somewhat moist state of it should be certainly secured, since on its being established spontaneously, or by medicine, some of the most formidable head affections and pains about the lumbar spine pass away, almost without any other means.

If there be cerebral but not general plethora—that is, if, though the head be hot, the cheeks red, the conjunctiva tumid, and a sensation within the cranium of fulness, distension, or throbbing be felt, there be yet a pulse calm and only moderately full, then leeching in the fossæ behind the ears, or cupping on the nape of the neck, followed by a blister, if it appear necessary, will be required. "The most effectual remedy," observes Dr. Philip, "when speaking of sympathetic headache, "is bloodletting from the head or its immediate neighbourhood." But if the plethora be general, and the gastric affection of an irritable hyperæmic kind, leeches must be applied to the epigastrium, and also to the anus, and saline purgatives be given. Dr. Philip speaks of emetics, which I cannot recommend except very occasionally: to wit, when the headache is entirely due to some indigestible aliment lodged in the stomach, and within an emetic's reach; for if it be passed into the duodenum, purgatives are better, since ingesta can be recovered from the duodenum only by unpleasantly violent antiperistaltic action. Yet the principle on which Dr. P. proposes to administer both emetics and cathartics is strictly sound. "Emetics and cathartics frequently relieve headache, because they not only tend to remove the cause of headache, but occasion—the former immediate, the latter eventual—depletion of the vessels of the head."

In anæmic headache the course is different. This headache may not be directly due to gastric derangement, yet it is to be cured in great part by means addressed to the digestive organs. Thus, for example, child-bed flooding, or any other resembling cause, may produce intense headache, and intense pain and debility of stomach, simultaneously; but in such a case we must neither impute the headache to the gastric affection, nor the gastric affection to the headache. They are, in such cases (and these cases are not rare), synchronous, or, if we may be allowed to coin a word possibly a little more exact, *iso-chronic* affections, dependent on a common cause: to wit, anæmia of the cerebro-spinal organs, and languor of the circulation. Yet the treatment of both must be chiefly through the stomach.

Let us now very briefly notice digestive derangements secondarily produced from affections of distant parts and organs. And first, as regards cutaneous derangements. The effects of an extensive scorch or scald of this surface will perhaps best illustrate its pathological relations with the digestive organs. In the event of such an accident, the nervous centres are powerfully excited and exhausted; and at the same time, it often happens that one or other of the mucous canals, alimentary or urinary, is inflamed. Our business, at present, is with the former. This, then, especially if there have been predisposition to disease, is not unusually precipitated by the accident referred to into acute inflammation; it rarely fails, at least, to manifest a considerable degree of secondary disturbance. The cutaneous and mucous surfaces are, as we have before observed, antagonistic; that is, an active secreting mucous membrane causes a less active cutaneous, and *vice versâ*. Now, as was also formerly remarked, and as, in fact, follows from the very terms of the proposition now stated, membranes that antagonize also sup-

plement each other; that is, if the cutaneous membrane, by sordes, by eruptive or other disease, by scald, scorch, &c., is rendered incapable of its function, the mucous membrane is rendered more active (in common, it may be, with the urinary), and may thus have a vicarious duty suddenly thrown upon it, which, if already morbidly disposed, it may not be unable to undertake without excitement verging on inflammation. On this principle, then, we explain dyspeptic derangements consequent on or accompanying small-pox, measles, scarlatina, &c.

Disease of the heart produces secondary indigestion, or hepatic hyperæmia, principally by causing congestion of the gastric mucous surfaces, and of the portal system.

The next paper will be devoted to some further general notices of treatment.

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[To be continued.]

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### RANULA.

M. Petrequin dissents from the prevalent opinion that ranula consists in a dilatation of the ducts of Wharton: 1st, because the symptoms of ranula are not similar to those of retention of saliva in the submaxillary gland; 2d, because the liquid it contains resembles not saliva but the glairy contents of some cysts; 3d, because the best mode of treating it is that which succeeds in cysts—excision or obliteration of the cavity by irritant injections or by a seton; 4th, because, in ranula, incisions inevitably tend to close, while wounds of excretory canals, on the contrary, tend to become fistulous, and we never see after an operation on ranula, the saliva flow abundantly during mastication, as occurs in salivary fistulæ; 3th, M. Brechet, in dissecting these tumors, always found that they were cysts occupying the sub-mucous cellular tissue; and 6th, the progress of dilatation of Wharton's ducts by salivary calculi differs essentially from ranula: thus, in a case in which a large calculus was extracted from the duct, M. Petrequin observed that the incision, so far from closing, remained fistulous, and several months after the saliva could be abundantly expressed from it.—*M. Petrequin's Traité d'Anatomie Medico-Chirurgicale;* and *Brit. and For. Med. Review.*

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## ON THE TREATMENT OF SYPHILIS.

By Thomas Bartlett,
Army Medical Department.

During the course of admirable lectures which he delivered at St. George's Hospital in the Session 1843-44, Sir Benjamin Brodie, when recommending the exhibition of mercury for the treatment of the first stage of syphilis, stated it as his opinion, that a rule could not be applied to society at large which was drawn from the observation of what occurs in soldiers. This, as every other opinion entertained by so high an authority, is entitled to the deepest consideration and respect. But, in receiving it with every proper attention, it behoves the surgeon to examine for himself the grounds on which it rests, lest he fall into the serious error, for a member of a thinking body, of taking for a proved fact that which has been advanced without a sufficient foundation. And, indeed, it is most important that this matter should be set at rest, lest the progress of knowledge be delayed by a belief that there exists some peculiar constitution in soldiers which renders a successful treatment of their diseases altogether inapplicable to persons in civil life; thus shutting out from the medical inquirer perhaps the most valuable means of forming a judgment on disease in general, inasmuch as soldiers are always under the observation of their medical officers, who are obliged to record, in public documents, the medical history of each illness, however trifling it may be.

Sir Benjamin Brodie is reported* to have said, "Soldiers are men with strong constitutions, and are in good health, otherwise they would not be received in the Army. In short, from their constitution, and the situation in which they are placed, they may be supposed to have the power of throwing off morbid poisons which would not be thrown off by others." No one can question the accuracy of the former remark at the time of the enlistment of the soldier; and surely it is equally applicable to a large body of civilians, who have never experienced the want of the necessaries of life, which is

* Lancet, 1844, p. 674.

most generally the cause of the enlistment of the English soldier, and would, therefore, give them a greater power of throwing off morbid poisons. But unhealthy climates, the exposed nature of a soldier's service, harassing night duty, and a constant and unquenchable thirst, enervate and break down the strongest constitution. Had the observation referred to sailors, it would have been much more accurate, as they always enjoy the invigorating influence of sea air, and moving about from place to place in rapid succession, their minds are kept healthfully employed, while the nature of their duty increases the vigour of their bodies. Military service in the line of the British army is most trying to the human constitution; and one can scarcely recognise, in the prematurely broken-down invalid, the manhood of the strongly built and healthful recruit.

Failing, then, to perceive in soldiers any peculiar vigour, or greater constitutional power than their civil neighbours, who have never breathed any but the purest air, and whose lives have been passed in healthful employment, let us see whether we cannot obtain a clue to unravel the mystery of the treatment which is eminently successful with soldiers, not being always applicable to civil practice. The regulations of the British army require the medical officer in charge to inspect the whole regiment every week, for the detection of syphilis among other diseases. Now it appears to me that the whole gist of the matter rests with this regulation, which secures professional treatment to the soldier on the first appearance of any venereal complaint. The civilian who is so unfortunate as to contract the venereal disease, very generally places himself in the very opposite position to the soldier; for, not appreciating the importance of an early attention to what appears to him an insignificant matter, he entirely neglects it; or, if he suspects the real nature of the case, he is apt to resort to some inefficient means for its cure: the result, in either contingency, being the protraction of the cure of the primary sore. The wisdom of the army authorities obliges the soldier to submit without delay to the cure of a sore, of which he would otherwise take no notice; while the chancre continues uncured so long in the civilian that *sufficient time is allowed for the absorption of the venereal virus into the system.*

The advocates of—at all times—mercurializing the system, on the appearance of a sore considered to be venereal, act on the assumption that the venereal virus must be absorbed at once into the system, unless prevented by mercury. How, then, can they meet the authentic recorded cases of the non-mercurial treatment of primary sores without secondary symptoms supervening? For, if they are right in their opinion, if mercury is, from the first, required to prevent the taking up of the syphilitic poison, not only should secondary symptoms occur *longo intervallo*, but they should never be absent; their advent should be a mere question of time, in all cases of primary sores healed without mercury. Further, if there are upon record numerous cases whose authenticity is above question, in which secondary symptoms did not supervene after the non-mercurial treatment of the primary sore—local applications being alone employed—does it not follow that the impregnation of the system by the venereal poison has been prevented by the speedy cure of the chancre? And it is worthy of remark, that such cases from the medical registers of the British army are necessarily more valuable than similar ones taken from civil life, inasmuch as there can never arise a question as to the soldier having had secondary symptoms unknown to the surgeon of his regiment; whereas, the civilian might not resort to the surgeon who cured him of his chancre should secondary symptoms come on at any future time.

The mercurialists are strongly impressed with the power of their drug in effecting a speedy cure of the primary sore. They say, give blue-pill, touch the mouth, and then the sore heals. My experience does not bear out this view. Once only have I had under my charge soldiers who had been previously attended for the same venereal sores by a lusty mercurialist, their own surgeon, who not only filled his own hospital with his venereal patients, but swamped his neighbours as well. Such venereal sores as these I never saw in soldiers either before or since; they were sluggish and indolent; it was a work of time to give them red,

sprightly granulating surfaces, and I need scarcely add a long time elapsed before they were skinned over. What could have produced this difference in the character of the venereal sores of the soldiers of two regiments in the same garrison, doing the same duty—the sores of the soldiers of the regiment to which I belonged healed quickly and well—and having equally good constitutions; indeed in every respect similar men similarly circumstanced, but the use of mercury? This was the first occurrence which made me consider that the general use of mercury hindered the cure of the primary sore. The last occasion on which that opinion was confirmed happened the other day. A gentleman applied to me for the cure of a chancre, which he had had for a long period, and which was intractable under the treatment of his surgeon, who had mercurialised him for it. I referred the surgeon to the number of this periodical of the 18th of October, 1844, and he used the calomel dressing there advised by me, which speedily cured the sore; and I entertain no doubt, knowing as I do the gentleman's constitution, that the mercury did him a great injury, and much retarded the cure. To my apprehension, this gentleman is more likely to suffer from secondary symptoms, from having had a poisonous sore on his person for a long time, in spite of the mercury, than if that sore had been at once healed up by local treatment. As far as I can judge, it appears the unvarying practice of the great body of surgeons in civil life, to employ mercury for the cure of the primary sore, no matter what the state of the patient may be; to drive out the disease, as they say. But this it cannot do, unless it cures the primary sore; for, so long as that exists, a nursery—so to speak—of syphilis is encouraged, in which poisonous matter is constantly being formed, to await the process of absorption into the system.

What happens if a gentleman contracts a chancre, and puts himself immediately on its appearance under the care of a mercurialist? The first thing is to give mercury, which is not discontinued till the sore heals. And this the surgeon does, although he knows that the same thing is treated in the army without mercury, and with the very best result. In the event of eruptions appearing on the skin, or any affection of that nature supervening, Oh! says the surgeon, these are secondary symptoms; what a pity we did not give more mercury! the disease was not eradicated! And yet, the strong probability is, that the second disease was caused by the profuse administration of mercury for the cure of that which needed no such treatment. For, if such is not the legitimate inference, how is it that these affections prevail so much in civilians full of mercury, and into whom it is poured on the first appearance of the primary sore? Should not a surgeon be convinced, that no less dangerous means are effectual, before he subjects a patient to a long-continued salivation, which must necessarily lessen the stamina of the system, while it renders him liable to that protean and terrible malady, the mercurial disease? Who can present a more wretched appearance than the person who has been repeatedly mercurialized for various attacks of syphilis? and yet the cry, even in such a case as this, on the appearance of each fresh chancre, is, more mercury; until, at last, death seizes his victim, who dies a prey to that which has killed such multitudes, and rendered miserable the lives of so many more.

Although strongly adverse to the administration of mercury in every case of chancre, considering its indiscriminate use to be attended with the worst consequences, still I can by no means advocate the cure of all primary sores without mercury. If a person puts himself under the care of a surgeon on the first appearance of a chancre, not a grain of mercury need be given; for the system will not be affected with the poison, if proper means are used. In the event, however, of the sore having been of some standing when shown to the surgeon, then, only, will it become his duty to prescribe mercury, as, in all probability, the disease will not be merely local, but the poison will have become absorbed into the system. And it is not unworthy our consideration, that persons who have been kept under a long-continued salivation, for the cure of their first chancre, are more likely to delay applying for surgical assistance than those who have been treated in a less dangerous and more effectual

manner. Our knowledge of the venereal disease is singularly defective on the very important point,—at what period of the duration of the chancre does absorption commence. Until this is determined, the treatment of syphilis cannot have attained its limit, for it certainly does not commence on the first appearance of the chancre A vast amount of suffering would be prevented, were surgeons generally to direct their attention to this point. But the solution of this question more especially appertains to them who have done so much in the right direction, and whose means are superior to those of any other class—the officers of the medical department of the army.

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### SYMPTOMS PRODUCED BY EATING DISEASED POTATOES.

In a letter written by Dr. O'Brien of Naas, that gentleman gives a brief account of a peculiar affection which he has of late frequently met with in dispensary practice, and which he has invariably traced to the use of diseased potatoes. It is ushered in by rigors, hot skin, quick pulse, and pain in the abdomen. In the next stage, rose-coloured patches appear, and as suddenly vanish, and in the majority of cases there is diarrhœa. In the third stage there is a swollen state of the muscles of the neck, shoulders, and arms, with pain so acute, that the patient will wince on the slightest pressure; inability to raise the arms; pains in all the bones; a red erysipelatous state of the face and scalp, with œdematous swelling of the eyelids, so as to nearly close them. The author has seen ten cases of this affection in three or four days, and in the same locality.—*Dublin Hospital Gazette*, Jan. 15, 1846.

### DR. SCHOENLEIN ON THE STATE OF THE FLUIDS IN ACUTE RHEUMATISM.

In rheumatism not only the urine, but other secretions also, as the perspiration, and even the matter of an abscess or ulcer, are found to contain an excess of acid matter. In one of Schoenlein's patients, the surface of an ulcer was observed to be covered with a layer of genuine crystalline matter during the course of one night. We have good reason, therefore, to believe that lithic acid exists in the blood; for we know that it is present in much greater quantity than usual in the urine, and also in the matter of perspiration; it has also been found in the contents of rheumatic abscesses.—*Med. Chir. Review.*

### CASE OF
## OBSTRUCTION OF THE BOWELS
### FROM A LARGE CALCULUS—RECOVERY.

By J. Campbell, M.D.
Physician to the Honiton Dispensary.

Mrs. ——, æt. 50, of a healthy constitution, and whose catamenia ceased some years ago, had been complaining of disorder of the stomach, for which laxative medicine had been given with good effect. Two of the Pil. Rhei. Comp. were taken on the night of the 26th August.

27th.—Suddenly felt faint and sick while lying on the sofa after a walk. Soon after there was a natural feculent evacuation.

28th.—Had some vomiting without pain; no stool; an emetic was given.

29th.—The vomiting, which was not urgent, became stercoraceous; no stool. Calomel and opium were given, and a blister was applied over the liver.

30th.—Vomiting every six or eight hours, generally brought on by tickling the throat to relieve herself; no stool; ℥xii. of blood, which had a thin buffy coat, were taken from the arm. A purgative injection was given, and returned without any feculent matter.

I saw her that night at 11½ o'clock. She was lying easy; no pain except on handling the abdomen, and this not increased by pretty firm continued pressure; bowels a good deal distended, but soft; some nausea; pulse 94, soft, of good strength; urine abundant and natural; countenance not anxious; no external hernia: a draught with Musk and Liq. Opii Sedativ. ♏xx. was ordered; the common enemata were continued, and it was recommended that if there was no stool next day, a tobacco enema should be used.

On the 2d Sept. I learned that she had had a quiet night on the 30th, but that the occasional vomiting continuing, and being still stercoraceous, and the common enemata procuring no stool, on the 31st the tobacco enema had been given. This produced great collapse, in which state she lay all the 1st Sept.: on that night two doses of opium, gr. i. with calomel, gr. x. were given; occasional vomiting (stercoraceous) had continued, but there was no stool, nor had the tobacco injection been returned.

On the 2d Sept. at 11 A. M. she had rallied from the collapse, but had vomited fluid stercor that morning; pulse 100, soft, of good strength; countenance though exhausted, not anxious; no increase of pain of the bowels, but great increase of their distention. As the last enema had not been returned we suspected some obstruction low down; and as she had always found Cheltenham salts agree with her, she was ordered Sod. Sulphat. ʒij. ex Infus. Rosar, omni bihorio. Six doses were taken without vomiting, and an hour after the last, the elastic tube of the stomach pump was passed per anum, to the extent of 15 inches, without Mr. H.'s perceiving the least impediment, and lbij. of warm water being thrown up, the tube was slowly withdrawn. Soon after half of the water with some recent fluid feculent matter was returned. An enema with common salt and oil was now given in the same way; none of this was returned, but two hours afterwards it was vomited. A draught with Liq. Opii sedativ. ɱxv. was now given, and procured sleep.

3d Sept.—More quickness of pulse, and increased distention of abdomen. An enema of beef-tea was given, and ordered to be repeated whenever returned; hot turpentine was applied over the abdomen, and a draught with Bismuth. Trisnitrat. gr. iij.; Pulv. Aloes, gr. iv. and Morph. Muriat. gr. ⅛, ordered every four hours. At 5 P. M. vomited stercor involuntarily; no stool; three of the draughts had been taken. They were recommenced.

4th.—Had slept easily; nausea and fœtid evacuations, but no vomiting; no stool, nor had the beef-tea enema been returned; pulse and uneasiness in the bowels much as before.—Continue the draughts, and rub in mercurial ointment.

5th.—Had had an uneasy night, but had not vomited till 4 o'clock this morning after nine draughts had been taken; vomiting still stercoraceous, but less so than before, and since that hour no fœtid eructations, but there is great distention of the abdomen with more uneasiness and tendency of pain to become fixed in the left iliac region; pulse 120, weak; countenance much exhausted; lies with her eyes shut, but takes a little beef-tea and brandy and water, which indeed she has done throughout the attack: extremities cold, but has had no shivering; urine pretty copious; no stool, nor tendency to one.

As quite as much purgative medicine had now been given and retained as was thought safe; as enemata were not returned, and might only increase the distention of the colon, while we had proof that the fæces were fluid; it was thought that we might at least try to relieve the colon by the stomach pump passed per anum. It was accordingly introduced, and Mr. —— now thought he felt some impediment in doing so. It was passed to the extent of about 20 inches without the least inconvenience to the patient. When withdrawn the tube shewed some indentations, and on Mr. ——'s introducing a candle, evidence was procured of one stricture four inches from the anus, and another four inches above the first, but the contraction was not great.

As there was still some chance of the purgative beginning to act, we abstained from recommending any thing but a trial of the galvanic action. It was therefore applied, and continued for two hours, without any apparent effect, except at first some nausea and borborygmi.

At 7 P. M. the pulse was 124, and weak; the extremities with cold sweat; abdomen very much distended, but not tympanitic; the pain was almost gone. Although there now appeared to be little probability of recovery, chiefly from the continued obstinacy of the bowels, yet as there was hitherto no inflammation, it was thought that much of this prostration was owing to the accumulation of fæces in the stomach. She was therefore encouraged to vomit if inclined to do so, having been hitherto enjoined to resist it; and as there was still a chance of the purgative acting, she was ordered Ammon. Sesquicarb. gr. v. with Spirit. Æther. Sulphuric. ʒss.; ex Mist. Camphor. ʒi. 4tis horis.

She did vomit soon after with considerable relief, took the draughts, and lay easy all night.

6th Sept. — Pulse 94, of good strength; extremities warm, and at 10 A. M., before the galvanic battery was again used, she passed the beef-tea enema, which had been administered 72 hours before; a warm water

enema was now given, and she had a copious fluid feculent evacuation. Took beef-tea with relish.

Sept. 7th.—Has had six or seven fluid, feculent evacuations. We had now supposed that all obstruction must have been owing to the strictures, when at night while on the night chair, she suddenly passed a concretion of very great size without the least difficulty.

Sept. 9th.—Pulse 82; well in every respect, with the exception of great debility. The calculus had apparently an external shell of excessively hard fecal matter marked by the cells of the colon; on shaving away half of it with a penknife, it seemed to be composed of brown hardened bile with white crystalline striæ (of cholesterine) radiating from the centre. It weighed, when dry, ʒiiiss. It was of an irregular oval shape, measuring one inch and six-tenths in its longest, and one inch in its shortest diameter.

In this case, which is remarkable for the length of time during which there existed complete obstruction with inverted action of the intestines without the occurrence of inflammation, it is probable that the calculus had lodged for a long time in one of the cells of the colon, and there acquired its exterior coating of fecal matter, and then becoming dislodged had caused the obstruction above the sigmoid flexure, acting like the valve of the stomach-pump, and preventing the return of the enemata, and latterly, perhaps also causing spasmodic stricture in the rectum. The only fact bearing on the case which could be learned was, that in the previous winter she had had a severe attack of pain at the pit of the stomach, which kept her awake all night, and was supposed to be seated in the liver by her professional attendant. This might have been caused by the passage of the calculus out of the gall-duct, though it must have been slight in proportion to the size of the stone.

Dr. Abercrombie (Diseases of Stomach, &c.) mentions a case of (XLV.) ileus fatal on the third day, when, on inspection, the obstruction was found to be half way down the small intestine, and caused by a "biliary calculus, four inches in its larger circumference, and three and a half in its smaller. The common duct was enlarged so as easily to admit a finger."

Honiton, Jan. 24th, 1846.

## VALENTIN ON THE FUNCTIONS OF THE NERVES OF THE ORBIT.

*Translated from the Latin,*

By John F. France,
Assistant-Surgeon to the Eye Infirmary, Guy's Hospital.

*The Optic Nerve—Modes of dividing the nerve, within the cranium and on its entrance into orbit—Effects of the operation as respects motion, sensation, vision, and state of the pupil—Circumstances under which pupil still acts—Destruction of globe as a consequence—Effects of long-continued blindness—Subjective vision; its various phenomena and their explanation—Muscæ.*

After the brain of a body retaining its irritability is removed, no motion of any part ensues upon irritation of the optic nerve either by mechanical or chemical means; but in dogs or rabbits, if the nervous centres remain uninjured, the pupil becomes a little contracted all round while the optic nerve is being divided; and this we shall presently see is effected by the reflex action of the motor oculi, excited through the medium of the brain. In living rabbits the optic nerve may be divided in two places; viz. within the cranial cavity, before it reaches the optic foramen, or immediately after its entrance into the orbit. Since both operations have precisely the same effect on the function of vision, it is better to select that by the orbit, as the experiment is less disturbed by collateral circumstances; the attempt to divide the nerve within the skull frequently giving rise to fatal hæmorrhage.

In order to effect division within the cranium, the neurotome needle must be passed in the way we shall describe below for division of the motor oculi; with the single exception, that the posterior wall of the orbit must be carefully followed as far as the median line, and one or both optic nerves be there divided by a brisk and firm stroke.

To divide the nerve immediately it enters the orbit, the point of the neurotome is placed on the extremity of the orbital margin of the frontal bone, between the globe and superior lid; and, having pierced the conjunctiva, the instrument is advanced from behind forwards and inwards, guided by the bony wall of the orbit, until a softer substance, *i. e.* the nerve passing through the optic foramen, is touched. This being done, the section

is completed by a few firm and forcible strokes.

During the operation, the animal, apparently on account of the subjective light arising from irritation of the optic nerve, is distressed, struggles with its feet, and stretches out its head; but gives no cry*, nor exhibits any convulsive motion. Upon the section of the nerve, the pupil, even if exceedingly dilated before, becomes immediately contracted to the utmost; while the globe itself, which is forced outwards on the entrance of the neurotome, being deprived of its posterior fixed point, prolapses; the prolapsus, however, in the course of a few days, disappears, little or no vestige of it remaining.

After destruction of the optic nerve, the sensation of the palpebræ, conjunctiva, and globe, remains fine and distinct, so that the least irritation of any kind is instantly communicated to the brain. It seems hardly worth mention that the motions also of the palpebræ and globe continue perfect; since in eyes deprived of vision for the longest period, or destroyed by suppuration, and transformed into shapeless tubercles, motion is still preserved. Whilst the pupil of the eye, the optic nerve of which, is irritated either chemically or mechanically, always contracts, that of the other eye, in the rabbit, sometimes contracts, and sometimes retains its usual size unaltered; a variableness the cause of which I have never been able to discover. It is quite clear, however, that contraction of the pupil is not by any means necessarily a sign of the optic nerve having been touched or divided, because the same effect (only more energetic and certain) constantly follows every irritation of the motor oculi. It may, in fact, be easily shown to arise from reflex action of the latter nerve, induced through the medium of the brain; for the pupil of a dead rabbit or dog contracts on irritation of the optic nerve only so long as the entire cerebrum, or its inferior half, remains uninjured in the cranium; and when the whole brain is removed, no irritation whatever, of nerve, causes the least motion of the pupil. In the living animal, as Mayo ascertained, the motion is produced by irritating that part of the divided optic nerve which is in connection with the brain,—not the peripheral portion detached from it.

Actual contraction of pupil soon disappears in the eye which is blinded; but the degree of expansion frequently does not for some time equal that which was habitual to it, and which the pupil of the uninjured eye retains. If prolapsus of the globe is produced by the operation, it most commonly subsides, as already observed, in a short time after; but should the ophthalmic artery have been wounded, and great hæmorrhage ensue, this is not the case; indeed, so much blood may escape as to cause apoplexy by entering the cranium through the optic foramen.

The eye, of which the optic nerve has been cut through, invariably remains permanently blind; and though the animals may have survived for months, I have never observed a restoration of the visual functions to their former state; notwithstanding that the optic nerve does not differ from other nerves, and admits of perfect regeneration. Thus, when the sound eye is bandaged, the creature runs against every thing put before it, provided the hairs round the mouth do not give intimation of the proximity of external objects; hence, to prevent the experiment becoming less definite, they too should be bound up with linen. Being thus suddenly blinded, the animal becomes distressed, and makes unusual movements; now rushes hurriedly straight to the opposite wall of the room; then striking the impediment with its head, stops; and again advances more rapidly than before, and so on. The blindness of the eye operated on continues unaltered for life.

That not the least sense of vision exists after division of the optic nerve is proved by another sufficiently delicate experiment. The palpebræ, which, when a strong light, especially that of the sun, falls suddenly upon the eye, are always closed immediately, remain unmoved under the same circumstances after division of the optic nerve. For this experiment, however, to succeed, it is essential that not the slightest perception of increased heat should be excited, which might evidently modify the result, if the branches of the fifth nerve were entire. I therefore employ one of two methods; either suddenly exposing the animal,

* That wounds of the retina are not attended with pain is easily observed in the lower animals, and in man is proved by the experience of Magendie, vide Fror. Notiz. v. xi.

previously kept in a dark place, to the sunshine; or throwing the solar rays concentrated by a magnifying glass quickly into the eye, a plan which is also the best for observing the action of the pupil.—Again, if the retina of an eye with the optic nerve cut is stimulated, as described, by the sun's rays, the pupil does not contract, unless, 1st, when the nerve has been only partially divided; thus, in men with imperfect amaurosis this change of pupil is still observed; or 2dly, the rays collected by a glass, before entering the pupil, touch the iris. In this case they may cause pupillary motion by means of reflex action propagated from the sentient to the motor fibres of the iris; and, in fact, the iris of the eye irritated by the wound of the optic nerve seemed much more excitable in this way, after, than before the injury. The opinion, however, must be cautiously expressed; since these experiments may be safely and with facility exhibited on men, but are not in them equally successful. 3. A third exception is, when the sun's rays fall on the eye for so long, that the heat becoming greatly increased, the sentient fibres of the iris are directly stimulated; reflex action taking place from them, not from the fibres of the optic nerve to the motor fibres of the iris. In this way, both in men and the lower animals, the pupils of perfectly amaurotic eyes often contract, if the flame of a candle is brought close to the organs; and that, whether the increased heat is perceived by the subject, or is appreciated by the nerves alone,* independently of true sensation.

4. Another exceptional case is, when the pupil of the sound eye alters. In like manner, the pupil of an amaurotic eye follows the variations of the healthy one; the reflected action being imparted from one motor oculi nerve to the other:† so also when one globe is extirpated, the pupil of the other eye, though covered with a bandage, is always, according to my observation, excessively contracted directly after the operation. This reflex action originating in the optic nerve is often not limited to the iris, but extends to the muscles of the lids. Thus the orbicularis palpebrarum closes the eyelids strongly and constantly when excessive irritability of retina is present, as we see daily in scrofulous ophthalmia; albinoes (leucopathici) keep the globe in continual motion, because the retina is over stimulated by ordinary light owing to deficiency of pigment in the choroid and iris;* and persons born with cataract are generally affected with the same morbid motion of the eye.† Again, nervous individuals with extreme myopia or excessive irritability of retina not uncommonly keep the globe in continual involuntary motion, (in a horizontal oftener than a vertical direction); and lastly, Walker‡ has observed, that the lids and iris are simultaneously affected with spasm. Photophobia (*e. g.* scrofulous), for example, almost always causes constant contraction of pupil; and thus in a man labouring under paralysis of the facial, auditory, and abducens nerves, and photophobia, all confined to the left side, from a wound of the head, I found the pupil of the affected eye, though mobile, yet less by above a third than that of the right. All these circumstances, occurring in man not unfrequently, are more rarely seen in animals, as there seems less direction of intelligence to the visual faculty in them, and the muscles of the globe and iris are less active. However, it is evident from what has been

* Guttentag relates an experiment in point:—The iris of a boy with amaurosis of both eyes following nervous fever, was immoveable, even if the rays of the sun at noon were concentrated by a lens upon it; yet it instantly contracted when the flame of a candle, or any other hot body, was approximated to the eye, so as to excite lacrymation and suffusion of the conjunctiva.

† Hæn, Richter, Janin, and more recently Swan and Walker, have denied that the pupil of amaurotic eyes is always (as commonly asserted) completely destitute of mobility. For though the motions of the pupil are most commonly absent, they are yet observable if a stronger irritant be applied (as on cauterizing the cornea with nitrate of silver, by which diminution of pupil is always produced in the most perfectly amaurotic eyes); or if the irritability of the iris itself be morbidly increased, as in young persons affected with congestion of the head and hæmorrhoids. I have never, however, seen the pupil of an amaurotic eye alter, merely in consequence of the light falling upon the retina; but when alteration has occurred, invariably, either abnormal irritability of the iris has been present, or the rays of light have touched the surface of the iris, or have necessarily, from long continuance, given rise to increased heat. It is obvious that increased heat, though the rays fall only on the amaurotic retina, might produce the change in the pupil through the ciliary nerves accompanying the vessels of the retina; and this has been suggested by Troxler in Himly's Ophthal. Journ. vol. i. p. 42.

* Rudolphi, Berliner Encycl. Wært. vol. ii. A. Retzius, Fror. Not. vol. xv.

† Cecconi, Fror. Not. vol. xi.

‡ Schmidt, Jahrb. v. 3.

said that the motions of reflex action arising from the optic nerve are extensive; as when the eye is moved horizontally, both the motor oculi and abducens nerves are in action; and when the palpebræ are closed the power of the facial is exerted.

Destruction of the globe, after lesion of the optic nerve, ensues at a much later date, and I have seldomer noticed it than after division of the trigeminal; which causes it, in a day, more or less, as the case may be, but with absolute certainty. The eye of a rabbit thus destroyed, after division of the optic nerve in the orbit a month previously, had the lens turbid, and the cornea so opaque, that its lamellæ were, as they appear after immersion in hot water, yet free from exudation and pus. The pigment of the iris was somewhat diffluent and softer than natural; and from its internal edge, to the margin and posterior surface of the capsule of the lens, extended a soft effusion made up of numerous cellular fibres. The lens itself was rather softened; the cells and globules, indeed, of one layer remained; but the characters of the fibres, more advanced in destruction, were at one place indistinct, and at another altogether lost. The remaining parts of the globe were healthy. All this disease was caused by effusion of blood into the posterior part of the orbit, from the ophthalmic artery and vein having been injured in the operation, and the due nutrition of the eye being impeded in consequence.

In eyes, blind from disease, the nervous structures are variously altered according to the nature and duration of the complaint; in those in which the external portion is disordered or destroyed, so that light cannot enter to act on the retina, this membrane long escapes change, and for months or even years no very striking alteration may be found. Its laminæ, as also the limbus luteus, and foramen of Sœmmering (as Rudolphi correctly states*), remain. But if the anterior parts still admit some few and feeble rays of light, and a slight relic of vision is consequently preserved, the retina remains quite perfect; so at least I have myself found it, after the fifth year. When, however, complete blindness persists for years, the limbus luteus becomes paler, and at length disappears; and in place of the retina, an irregular fibrous membrane is seen, composed of white cylindrical threads, but affording no vestige of granules, nucleated globules, primitive nervous fibres or external verrucæ. The fibres of the optic nerve are supplanted by a congeries of cylindrical fibres; hence it becomes thinner, and grey or whitish, almost like a fresh soft nerve from the carotid plexus of ruminants. These fibres differ materially from those of the healthy nerve, by their greater softness and grey colour, and the union of their fasciculi; but whether or not they are produced by a morbid transformation of the healthy tubular fibres cannot be determined.* Never having had an opportunity of examining a recent amaurotic retina in an eye otherwise free from disease, I leave this subject to the observations of others.

Subjective vision is produced by irritation of the optic nerve or retina by external or internal agency; and objective vision, by the external light. As, however, the retina is indispensable to the latter, this structure must superadd some power not pertaining to mere subjective vision; and on comparing the two, this supplemental power proves to be one not limited to the general perception of certain things, but comprehending a capacity of distinguishing each particular external object. How this function is performed by the retina, but cannot be by the optic nerve alone, we shall endeavour to explain hereafter.

Subjective vision is always effected by internal irritation, directly or indirectly excited: either the central sentient fibres of the optic nerve being so stimulated by the mind, that from their peripheral force subjective vision arises, as in the phantoms of fever and superstition, and as Henle† has truly said,

* Berlin. Encycl. Wært. v. ii.

* That this is the nature of the morbid effects I have observed in the recent dog and horse; and have subsequently confirmed the observation on preparations from the human subject preserved in spirit.

† Casper, Medic. Wochens. 1838. We are, it is well known, so impressed with sights that delight and please us extremely, as to be capable of repeating them by subjective vision; and this takes place more easily in proportion to the mental and visual effort originally employed in beholding and enjoying them. Hence, continued gratifying inspection of microscopic objects most readily excites this reminiscent vision; and hundreds of times after having directed the eyes with deep attention for some

in r min scent vision; or the peripheral por on of the optic nerve, or the retina, being directly or indirectly stimulated at a certain spot, and responding by its own peculiar sentient energy to that stimulation. Thus, sanguineous congestion, external or internal pressure, heat, cold, galvanism,* &c. acting on the optic nerve or retina, immediately produce the phenomena of subjective vision†; as does also over excitement of the retina: but not the least variation occurs, for certain definite phenomena always result under certain given conditions.‡

1. Light rapid pressure, caused either by the finger or sudden motion of the globe, excites the appearance of a semilunar or circular flash; the component shining points of which are not separately distinguishable; a linear portion of the retina being stimulated for a moment, and imparting consciousness of the impression in a general manner only.

2. If the external prominent surface of my presbyopic eye is steadily pressed with the finger, a large greyish black circular spot is beheld in the centre of the field of vision; and the space immediately surrounding the darkest point is filled with distinct and brilliant circular sparks, or with regularly arranged rhombic bodies: a complete rhombic figure, however, such as Purkinje§ has delineated, seldom appears. The circular sparks nearly correspond in size‖ with the globules of the innermost layer of the retina; and the rhombuli arise from the rhomboid cells, in which these are contained, also appearing, under greater irritation, subjectively luminous.*

3. When the same pressure is exerted upon the myopic and more irritable eye, after the central grey spot of the rhombus, there appears most commonly a perfect rhomboid figure: the irritability of the retina is here so great that its entire internal stratum seems luminous.

4. On the application of too great heat or cold, and particularly when the temperature is suddenly changed, less defined scintillations are not unfrequently observed.

5. Galvanism excites the appearance of arched or circular flashes, the component points of which are not seen separately; in this respect, therefore, its spectrum corresponds with that produced by rapid pressure, and cannot be referred to the particular structures of the retina.

6. Excessive irritation of the retina acts in two ways: either its subjective phenomena, first mentioned, take place; or some internal portions of the globe, not otherwise perceptible, are plainly seen. I have often a variety of phenomena in my own person, after too close and protracted microscopical examinations;—such as grey threads, sometimes knotted like necklaces, sometimes intertwined, and always retaining a certain fixed position in the globe, and following all its motions with accuracy.† I have, however, failed to discover what parts in the eye they represent; and have found by microscopical examination nothing which could be compared with them; though, indeed, their minuteness

hours to a particular microscopic object, I have seen it again immediately on closing the eyes. Not unfrequently these spectra have recurred on my falling asleep, but never as far as I recollect in dreams. Pictures of ciliary motion, of the terminal plexuses of nerves, of crystals, &c. have in this way appeared so perfect as to correspond exactly with nature, and surpass in delicacy and fidelity every attempt at delineation.

* There is this peculiarity with respect to galvinism; that if its action be too strong, the spectrum becomes coloured in accordance with the complementary law of colours, as is shown by the experiments of Purkinje, which I have repeated with the same results. See Bullet. der schles. Gesell. 1824, and Fror. Not. vol. x. Beiträge, vol. ii.

† On this subject see Purkinje in Berlin. Encycl. Wært. vol. iv. where works relating to it are cited.

‡ I describe what follows as observed in my own person; and have specially mentioned, where necessary, that my right eye is presbyopic, and my left, which I always employ in microscopic examinations, myopic.

§ Beitr. zur Kenntniss des Sehens in subject. Hinsicht, vol. 1, plate i. fig. iv.

‖ If anything can demonstrate that the retina, as its action is projected towards external objects, sees them in a way the reverse of that in which they are depicted on it, it is subjective vision; the appearances of which are always seen in the opposite direction; and these microscopic portions of the retina, from the same cause, appear so magnified, that they would be easily perceived with the naked eye, were they really of the size they seem.

* I see these shining rhombic figures divided by straight linear black interspaces; which seems to indicate that the actual parietes of the cells are not luminous; but that at first their nuclei only, and subsequently their whole contents, glow in subjective brightness.

† Joh. Muller clearly observes the same, habitually, in himself; but speaks of their independent motion, which I have never noticed. See his Physiology, vol. ii.

is such that, taking their size into consideration, they could hardly be recognised distinctly with our microscopes: possibly they may be external portions of the hyaloid membrane.

I see the blood-vessels in front of the retina subjectively in two ways; as the figure of a vein, in the manner described by Purkinje; or, by the motion of the blood. The venous figure* arises immediately in my left myopic eye; and its ramifications extending to the smallest offsets, are so clear and perfect, that no one, who has ever seen an injection of the central vein, could have the least doubt of their identity. The point of entrance of the optic nerve and the foramen centrale appear round and grey; and on continuing the experiment longer, I see the elevated fold in which the limbus luteus foramen centrale are situated; it appears raised, and of a milky grey, but I have never perceived any trace of the limbus luteus itself.

In the subjective phenomenon of the circulation, circular molecules, like the corpuscles of the blood, appear; and their motion resembles to a certain extent that of the blood as seen beneath the microscope; yet I have never distinguished a nucleus, and they can scarcely be regarded as blood-corpuscles, since they are not pale, or black, like other parts lying upon the retina, seen in subjective vision, but luminous†. I know no means of exciting this appearance voluntarily, in my own person; but it takes place, at certain times, if I throw the flame of a candle suddenly on the eyes; or, if after having been some time in a room lighted by a single candle only, I purposely and fixedly regard the flame. Then, on the grey ground surrounding the flame, these molecules appear, floating and moving rapidly from place to place, shining grey in colour, circular and flat in form; so that they resemble to a certain extent the molecules of the blood; but their motion is neither altered nor disturbed by movement of the eye itself.

I have never noticed the caudate sparks said to be seen on bending the head downwards too long; but separate, straight, or curved lines, have made their appearance, which might not inaptly be compared to portions of the papillary stratum of the retina. Not uncommonly, after sudden compression of the eye with the fingers or lids, or on keeping the latter too long closed, I see a luminous stellate figure: this is no doubt the expansion of the fibres of the optic nerve into the retina; for there is a dark round centre —corresponding with the point of entrance of the nerve—encompassed by a circular rim, from which the rays proceed, and which answers to its margin. The light, however, of the circle and rays varies in intensity.

On closing the eyelids forcibly, I often see a most delicate capillary network, at first black, and placed on a feebly illuminated ground; then itself illuminated feebly; and this phenomenon is often succeeded by a palely luminous venous figure: but, on such occasions, at the moment of re-opening the eye, there appears a network of capillaries of the utmost splendour and delicacy.

High stimulation of the retina causes the perception of brilliant light; and a stimulus less in degree*, that of colour; the reaction of the retina, however, is so constituted, that the subjective image, following the development of the latter, exhibits the complementary colour†. For, being prepared to perform its full function, and act with the force ‖ of complete light, the retina makes up, so to speak, with its complementary subjective image, what in objective vision was deficient, in consequence of the impression being coloured, and consequently in a certain

* In the "Repertorium," vol. i. I have communicated the fact that the tortuous course of the vena centralis retina can be observed in this way in the living subject. If this venous figure appears luminous sometimes, as on immersing the head suddenly in cold water, according to the observations of Purkinje and Muller, it is because the over-distended blood vessels compress the retina, each in form of its own outline.

† It is difficult, and, indeed, impossible, to suppose that each molecule of the blood can, by pressure, stimulate the retina to luminous subjective action, as the over-distended vessels do.

* This is not the proper place for discussing the causes and phenomena of colour; yet it is manifest from the experiments of Smith (Fror. Not. vol. xv.) and others, that its diversities arise from variety of light in respect of quantity, not of quality.

† The fact that white bodies, under certain circumstances, are followed by white secondary images, and black ones by black, does not invalidate this law; the circumstance arises from the retina, previously too active or too passive, prolonging its action after perfect closure of the eyes, and so producing continued, rather than secondary, complementary images.

sense imperfect. As a great difference is distinguished easily, and a less one with more difficulty, it often happens that individuals are unable to discriminate every colour with accuracy.*

There are two kinds of so-called muscæ volitantes; the fixed, or those destitute of absolute motion, though moving relatively as the globe moves; and the moveable, which possess absolute independent motion as well.†

The fixed musca is caused by a certain point of the retina being either paralysed, or covered by a local effusion, or a varix of the vena centralis retinæ: these differ from one another, in the latter disappearing in a bright subjective image, and the former remaining in it unchanged as a yellow spot. Of the moveable muscæ volitantes there are also two sorts; one excited by over-irritation of the retina, and the other by over-repletion of the vessels. The diagnosis between them is more difficult; but they are distinguishable by the former exciting very slight subjective im ges, or none at all; while with the latter, the entire surface of the retina may be luminous. The latter also sometimes annoys the patients,—probably hypochondriacal or hysterical, or labouring under hæmorrhoids, dysmenorrhœa, plethora or congestion of the head,—with other shining spectra. Of how great importance this diagnosis is in ophthalmic medicine it is needless to speak.

Whether integral parts of the retina are seen as luminous at the irritated points, or other structures within the globe are perceived, these subjective phenomena of vision all depend upon the nervous tunic. It is therefore evident that, during its persistence, though blindness have arisen from destruction of other parts of the eye, yet these phenomena may appear; and equally obvious is the impossibility of the subjective phenomena, which proceed from the retina, being developed, where blindness has lasted so long that this nervous membrane is absorbed or changed; or when it is destroyed in the first instance. The primitive fibres of the optic nerve, exerting exclusively an optic power, can of themselves, when irritated, undoubtedly induce subjective spectra; but they do not seem to possess the certainty, and (so to speak) excellence of the spectra arising from irritation of the retina itself. No elucidation of this subject of course can be drawn from the lower animals; but there are some circumstances which seem to prove the above opinion on man. Thus when, in extirpating the globe, the optic nerve is divided, there is sometimes no sense of subjective vision. The eye of a girl was extirpated by Demme, which had the anterior parts destroyed by an osteo-sarcoma of the lacrymal bone; but the retina and optic nerve, as I found by microscopical examination directly after the operation, were perfectly sound; in fact, she had seen well with this eye two weeks before. When all but the optic nerve was divided, the patient perceiving and describing other circumstances well, was desired by the operator to observe whether she saw any thing or not; and on this nerve being immediately cut through, denied, and persisted in doing so, that she saw any thing*. Since, however, on the other hand, the subjective phenomena of light do sometimes occur on section of the optic nerve, a difference must exist; which seems to depend on the phenomena in question not having sufficient definiteness†, or duration, to be certainly recognized by every one.

At first sight, indeed, our opinion seems controverted by the fact, that irritation of the portion of the optic

* Consult on this subject Goethe, Farben. vol. ii.; Colquhoun, Fror. Not. vol. xxiv.; Seebeck, Poggendorff's Annal. vol. xlii. In a pupil who saw the light of the finest threads not red but milky yellow, and seemed to belong to the first of Seebeck's proposed classes, I observed that this defect remains the same when colours produced by the refraction of light are beheld under the microscope.

† Willis, in his Anatomy of the Brain, has well explained his doctrine, that muscæ arise from the subjective action of the retina or optic nerve.

* J. Müller, in his Physiology, vol. ii., relates two cases in which no subjective phenomena of vision followed the section of the optic nerve; but he speaks of the degeneration of the nerve in such a way as to leave it doubtful whether the degeneration were sufficient to have abolished perception or not. Jourteral remarked a strong subjective light.

† That the primitive fibres of the optic nerve as I have elsewhere shewn (Repert. vol. ii.), alone are not sufficient for objective vision, is manifest; as the experiment devised by Mariotte proves, that the place of entrance of the nerve cannot possibly receive a perception of external things; and this place, as we have already stated, is void in all subjective spectra. Hence it follows that the nervous fibres possess such subjective visual energy only, as either is not appreciable, or very slightly so indeed.

nerve concealed in the cranium, or of the fibres included in the brain itself, from inflammation, congestion, or any other cause, will produce subjective spectra; but it is hardly necessary to remind the reader how much may, under such circumstances, be added by the mind to some indistinct subjective perception. All these cases do but prove, that a certain power of subjective vision exists, which admits of being so dressed up by the imagination, as for its phenomena to become connected and confounded with external objects. But what the extent of this power is, and what the amount of exaggeration it may thus undergo, can not be determined.

Admitting, then, that the man observed by Lincke*, whose globe had been removed for a fungous excrescence, beheld numbers of dancing men, besides flashes and luminous circles; it only establishes, that the irritated trunk of the divided optic nerve excited some degree of subjective vision, which was invested in ideal forms by the imagination.

We can scarcely form a judgment of the subjective impression of blind persons; for if, as far as can be traced externally, atrophy of the optic nerve has taken place, we cannot tell with certainty notwithstanding, whether those fibres contained within the cerebrum are all healthy† or destroyed; and indefinite subjective phenomena arising from them may be aided, as before, by the imagination and memory. That the memory acts a most important part in the matter is proved by the fact that patients, who have remained blind for a long series of years, fancy, even when not dreaming, that they can see‡; while persons blind from birth never even dream they are otherwise than blind§.

* On Fung. Medull. Leipsic. Müller's Phys. vol. ii.

† That after long-continued, and in congenital blindness, no fibres endued with perceptive visual power exist may be inferred, according to Zrune, (Belisar. 1833), if no sense of light is produced by the application of galvanism. But when the optic nerve and retina, or the former alone, are still sound, the phenomena of subjective vision may be still excited; for patients often make pressure on the eyes, and say they thus cause a sense of flames and colours.

‡ Herrman, Amm. Zeitsch. 1838.

§ Zeune, Belisar.

## EXTIRPATION OF THE UTERUS.

By T. Gregson, Esq.

Mrs. A——y had been delivered of her second child by a village surgeon two years ago. As she complained of much pain and uneasiness on the third day, her medical attendant ordered her to get out of bed and walk smartly across the floor. She recovered slowly, and complained much. About a year ago she came here, and was some months under the care of a surgeon. About six months since I was called to attend her. I found her extremely emaciated and exsanguine, having, for above a year, been exhausted by most profuse hæmorrhage at every monthly period. On examination, I found a pear-shaped body filling the vagina, the os tincæ embracing it firmly, and apparently adhering on one side. I gradually introduced my fingers, endeavouring to grasp and push it through the os tincæ This procedure caused extreme pain, and hæmorrhage, without the tumor yielding in the least. It was of a purplish red colour. Feeling satisfied that it was an almost complete eversion of the uterus, I endeavoured, by chalybeates, ergot, and astringents, to improve the system, but every monthly period produced extreme exhaustion, and death seemed inevitable. Being resolved, as a last chance, and herself and friends being willing, I determined to extirpate the uterus. I went, accompanied by my friend Mr. Frost, a most able accoucheur, who agreed with me that, as she was much exhausted and exsanguine, the attempt was justifiable. I laid hold of the tumor with the vulsellum, and drew it down as far as possible; in so doing the os tincæ entirely disappeared, leaving no doubt of the nature of the case. A very strong silk cord was then passed around it, and carried as high as possible by means of the double canula, the cord being also passed through the eye of a strong steel staff, very slightly curved in a bow-shape. I found this a very valuable means, as I could carry the ligature around the parts with the greatest facility. The knot was then tied with great firmness, leaving the staff included in the ligature, and opposite to the knot. This instrument was fastened to the thigh by a piece of

tape. On the second day, by merely turning the handle of the staff once or twice, the ligature was greatly tightened; this was done from day to day, causing the rapid death of the part. It came away on the ninth day. During the time from the operation to its coming away, reaction was extremely moderate. She had an occasional anodyne, the catheter was used twice, and castor-oil was prescribed. She gained strength rapidly: she was made to keep the recumbent posture about twenty days.

It is now three months since the operation was performed. She goes about her house, and has walked out a little, feeling easy and comfortable. These cases being generally considered hopeless, I have detailed matters perhaps minutely.

I believe the precautions taken, where the ligature is used to prevent inflammation, often produce the evils intended to be avoided; I allude to not tying the ligature too firmly at first. I think that no ligature can be tied too firmly, and that the great point to be aimed at is to destroy the vitality of the part at once, this being the surest means of preventing spreading inflammation and absorption of purulent or putrid matter.

On examining the part, I find that the entire body and neck of the uterus has been removed. There has not been the least disturbance at the monthly periods, nor symptoms of the system feeling the want of the organ removed.

Newcastle-on-Tyne,
Feb. 13, 1845.

### A NEW SIGN OF PREGNANCY. BY DR. POLLENDEN.

The author states, that during a practice of eighteen years he had observed a peculiar smell of the vaginal mucus to be a constant and unerring sign of pregnancy. The smell is musty, like that of spermatic fluid or liquor amnii; and, after a vaginal examination, it cannot be mistaken for any other odour. In a great many cases of pregnancy, during the first, second, and third months, when the condition of the patient was doubtful, owing to the earliness of the period, the author never in a single instance failed to discover the true state of the party by means of this sign. According to his latest observations the odour is perceptible as early as the eighth day of gestation.—*Northern Journal of Medicine*, from *Med. Correspondenzblatt Rhein, und Westfäl Aerzte*, 1845. Bd. iv. No. 1.

# MEDICAL GAZETTE.

FRIDAY, FEB. 20, 1846.

We have closely examined the Table of Mortality which has been lately issued by the Registrar-General, for the quarter ending December 1845, in reference to the all-important question of arresting small-pox by vaccination. Out of 447 provincial Registrars, 177 only have appended explanatory notes on the increase and decrease of mortality from this disease in their respective districts. It is much to be regretted that there is not some uniformity in this respect. All should return short notes, as mere numbers are not sufficient to supply available statistical or medical information. There is also another and more important defect. The notes of the Registrars are not drawn up upon any systematic basis. Thus, while one states merely that he has had so many deaths from small-pox in his district during the past quarter, another makes a similar statement, but compares the mortality with that of the preceding quarter, or an average of years; a third goes a step further, and gives a comparative account of the deaths amongst males and females; a fourth states whether the deceased had been vaccinated or not; a fifth adds the sexes; a sixth the ages! In fact, the remarks and observations are so little referrible to one standard, that they can scarcely serve any useful purpose in the general application of medical statistics.

We have, however, been able, after some trouble, to make the following extract.

The total number of deaths from small-pox for the last quarter, specified in the Registrars' notes, were 492. Of these it appears 25 individuals had been previously vaccinated, and 240 had not been vaccinated: hence the

deaths of the former were to those of the latter nearly as 1 : 4. Of 227 cases of death from small-pox, no account whatever is furnished! Age, sex, previous vaccination, and other circumstances, are altogether unnoticed! We presume that many of the Registrars belong to the medical profession, and therefore ought to be aware of the importance of these facts. In some instances it may be difficult to ascertain them, but this excuse cannot surely be applicable to nearly one-half of the total deaths from the disease.

The registrars should be impressed with the importance of stating the age, and whether the deceased had previously undergone vaccination or not. The remarks made in the leading article of our last number* will show what false views are liable to be spread, owing to inattention to these important questions. In about one-half of the fatal cases here noted, we are not informed whether vaccination had or had not taken place; and in only 24 cases are we informed of the ages of the deceased! Two males aged 25 (not vaccinated), and one 30 (vaccinated); one a female aged 36 (vaccinated); one an adult, after 21 years' vaccination (age not stated). The remaining 20 cases are given in a more complete and satisfactory form by the Registrar for Huddersfield. Thus he states that, out of 159 deaths in his district (about the average of previous quarters), 20 had been registered from small-pox (most of which had not been vaccinated); 14 were from 14 weeks to 4 years old; 5 from 4 to 11 years; and 1 aged 21 years.

The returns of only 24 complete cases out of 492 deaths, will not allow of the application of these facts to the refutation of the views adopted in the Report of the French Commissioners;† but we trust that this subject will receive the attention of the Registrars, in the notes which they may hereafter furnish to the Registrar-General for publication. In the meantime, we shall here quote some judicious remarks on vaccination, contained in the notes of the Registrar for the district of St. Sidwell, Exeter, as they tend strongly to confirm some observations which we lately had occasion to make on the subject:*—

"Deaths from small-pox excepted, the mortality of the quarter ending 31st December, is the smallest since the Registration Act came into operation—gross total, 101; small-pox, 35. Of these cases one is said to be after vaccination, and one a second attack of small-pox. This disease still prevails in my district; and although much benefit has undoubtedly accrued from the Vaccination Act, it is clearly no match for the ignorance and prejudices of the lower class of the population. Philanthropists are bestowing much attention on the means of improving the condition this class, by better drainage, supplies of water, &c.; at the same time they overlook a more legitimate and less speculative field for their exertions. Habits of cleanliness may at some distant period be induced by facilities of supporting them, if not counteracted by an inadequate supply of the necessaries of life; but the benefits of vaccination are immediate, and bestowed on a portion of that class with stronger claims on sympathy and intervention, from their utter inability to protect themselves. Of the deaths from small-pox in my district during the entire period of registration, not more than 2½ per cent. are said to have been previously vaccinated; though, on some occasions, the atmosphere has been so impregnated with this loathsome pestilence, that prior small-pox, even as in the

* P. 291.
† P. 291.

* Vol. xxxvi., p. 1344.

present report, has not afforded complete security. The number of cases from which this result is derived gives ample proof that vaccination, carefully performed and attended to, will effectually check the ravages of small-pox; and, if so, there have been deaths and maimings enough already to entitle these miserable young sufferers to legislative protection by compulsory vaccination, against the ignorance or worse motives of their parents; for I fear in too many instances, *this disease is looked on with complacency, as a means of diminishing the pressure of a numerous progeny on their restricted means of subsistence.* Another portion of the community is also, in my opinion, entitled to this protection —those who, availing themselves of the experience of the entire medical profession, have recourse to vaccination against this destructive disease— Why should their efforts be rendered nugatory by a license to other persons to load the air with pestilence to a degree which nothing can resist? One sometimes hears the liberty of the subject set up with apparent seriousness against compulsory vaccination—Liberty to permit the avoidable suffering, mutilation, and destruction of their helpless progeny by the most disgusting disease known in this country, and to subject others to the same evils in spite of their anxious efforts to avoid them! Society is based on the concession of individual rights for the benefit of the whole; and I cannot imagine any case where legislation would commit so trifling a trespass to secure such comprehensive advantages."

This is strong language, but not stronger than the case justifies. In the article above referred to, we demonstrated from the Eleventh Annual Report of the Poor-Law Commissioners, that not more than two-thirds chiefly of the children of the pauper population undergo vaccination. It is surely attempting to realize the labour of the daughters of Danaus, to endeavour to diminish mortality by legislation for the improvement of the Sewerage and Drainage of Towns and Populous districts, and at the same time allow the children of the poorer classes to die from the neglect of vaccination.

## Reviews.

*On the Mortality in Prisons, and the Diseases most frequently fatal to Prisoners.* By WILLIAM BALY, M.D. Physician to the Millbank Prison, &c. (From the Transactions of the Royal Medical and Chirurgical Society.) 8vo. pp. 160. 1845.

THE somewhat excessive revulsion of humane feeling which has, in recent times, induced our legislature to erect spacious palaces for the reception of felons, in place of the close and noisome prisons in which it was the fate of the criminals of the last century to be thrust and literally to "rot;" and the extreme care which has been taken to supply those institutions with medical assistance, well-regulated dietaries, sanitary rules, &c. in a manner at once more liberal and more solicitous than has characterised the organisation of the "Union" workhouses for the poor,—have not availed in removing those causes which almost necessarily render a state of long incarceration, to a certain degree destructive to human life. Dr. Baly, whose position as chief medical officer of one of our largest prisons, must have afforded him extensive opportunities of investigating the subject, has collected, within a very moderate space, a large amount of most carefully elicited information respecting the amount of mortality, and the causes of death, among the inmates of the principal English, Continental, and American prisons. The importance of these details can only be sufficiently appreciated by a perusal of the entire series of data; but we shall endeavour to throw together a few of the

author's principal statements and conclusions.

Dr. Baly observes, at the commencement of his paper, that the main results of his investigation of the health of the prisoners in the Millbank Penitentiary, during the year 1840, and subsequent years, and in other penal establishments, were, first, that imprisonment, continued for periods of 2, 3, or 4 years, produced everywhere a high rate of mortality; and secondly, that, although in particular instances other causes might contribute to increase the number of deaths, yet, in all prisons, the Millbank Penitentiary included, the increased mortality was chiefly due to the prevalence of *one and the same disease*, namely, tubercular scrofula.

The author has ascertained that "the annual rate of mortality ranges in the different prisons in England from 15·767 per thousand to 38·938 per thousand; in the prisons of the United States, from 19·019 to 39·336 per thousand; and in Switzerland from 26·380 to 38·690 per thousand; while, in France, the rate of mortality of the hulks varies from 30·7 to 53·4 per thousand, and that of the Houses of Correction, from 30·5 to 86.9 per thousand*."

It appears that the annual ratio of mortality in 36 of the largest county gaols and houses of correction is 19.013 in every 1,000 prisoners.

In the hulks or England the mortality was remarkably large, being 38·938 per thousand. The large number of deaths is, however, accounted for, in great measure, by the fact, that the more vigorous and healthy convicts were selected for transportation, and thus a large number of diseased and aged prisoners were congregated in that establishment. The annual rate of mortality in the Millbank Penitentiary is 18·147.

The following is an illustration of the influence of protracted imprisonment on the rate of mortality:—

"The rate of mortality amongst the prisoners in the Millbank Penitentiary appears to have been 13·052 per thousand during the first year of punishment; 35·645 during the second year; 52,267 during the third year; 57·139 during the fourth year; and 44·170 during the fifth year; the rate of mortality rising rapidly from the first to the third year, and slowly in the fourth, but falling again in the fifth year." In short, "the mortality suffered by convicts during the first year of their imprisonment has been comparatively slight; it has been more than doubled during the second year, and has continued to increase to the end of the third year."

The following are some of the author's data respecting the most prevalent *causes* of death in the Millbank and other prisons:—

"The average annual mortality by all the diseases which can be ascribed to the influence of malaria, has been 4.511 per thousand prisoners in the county gaols and houses of correction, and 5·632 per thousand in the Millbank Penitentary. This excess of mortality, on the side of the Penitentary, has been almost entirely due to fever. The proportion of deaths caused by bowel complaints has been scarcely at all greater in that institution than in the county prisons."

Dr. Baly is of opinion that, although several facts strongly favour the generally received idea that the prevalence of bowel complaints in many gaols is caused by the liquid nature of the diet, it is altogether incorrect to regard the diet as the sole cause of the prevalence of diarrhœa in prisons, and he brings facts to show that the disease really depends on some form of malaria floating in the atmosphere. There may be a good deal of truth in this argument,—still we cannot help believing that it is upon the nature of the diet or of certain other internal arrangements peculiar to prisons and unions, that the frequency of diarrhœa in those establishments depends. We believe that diarrhœa never prevails to an equal extent among the inmates of colleges, schools, and other establishments where the inmates enjoy the advantages of good diet and free exercise, or among the inhabitants of towns and villages adjacent to the prisons where, *cæteris paribus*, the effects of malaria, may be expected to be equally potent. We apprehend that the disease in question is in reality due to the effects of particular states of the atmosphere upon persons rendered susceptible by a restricted diet, and by confinement—indeed, this appears to be in substance the conclusion at which the author him-

* The annual ratio of deaths to every 1,000 persons living, is, in England (Metropolis) 15·390; France (the whole country) 14·140. Switzerland (Geneva) 16·165; United States (City and Co. of New York) 15·760.

self ultimately arrives. The opinion has generally prevailed, that the rate of mortality of the Millbank Penitentiary has been rendered greater than the average of many other English prisons by the unfavourable locality in which it is situated; but Dr. Baly maintains that the influence of the site has had but a slight share in augmenting the number of deaths which have occurred there; "the high rate of mortality in this institution being due to causes more immediately connected with the state of imprisonment." He brings facts and arguments to prove that the high rate of mortality suffered by prisoners in the Penitentiary cannot, except in small part, be ascribed to the previous unhealthiness of the criminal class. He considers it to be clearly proved by the medical records of the Penitentiary, that "the mortality caused by tubercular disease has been between three and four times as great during the eighteen years, 1825 to 1842, among the convicts confined in this prison, as it was in the year 1842 amongst persons of the same period of life in London generally, and that three-fourths of the excess of deaths from all causes in the Penitentiary, above the rate of mortality of all persons in the metropolis of the same period of life, has been due to the prevalence of this disease."*

The author then very justly argues that the fact of consumption and other forms of scrofula being less destructive to persons confined in the county gaols, &c., of England, than in the Penitentiary, by no means militates against the belief that tubercular cachexia is the disease which imprisonment has an especial tendency to produce. For the terms of imprisonment which persons undergo in the county prisons are, in a vast majority of cases, so short, that if the germs of tubercular phthisis were formed during the state of imprisonment, there would not be time for the disease to become fully developed, much less for it to reach its fatal termination before the prisoner's discharge.

The author reserves the investigation of the *causes* on which the great mortality from tubercular diseases in prisons depends, for the subject of a second paper, and here merely states, that "the most influential of those causes appear to be—1st, deficient ventilation; 2nd, cold; 3rd, want of active bodily exercise, and sedentary occupations; 4th, a listlessness, if not a dejected state of mind; and 5th, poorness of the diet;—for the diet of prisons, though often perhaps more abundant than the agricultural labourer usually enjoys, yet has generally been less stimulating, and also less nutritious, than seems to be requisite for the health, under conditions so unnatural and depressing as are those almost necessarily attendant on the state of imprisonment."

The above extracts form but a slight sketch of the large body of evidence which Dr. Baly has adduced in illustration of the subject under discussion—a collection of facts of great interest, and high value, as tending to arm with powers of action that mercy which is the diviner part of man.

* The annual mortality from consumption, hæmoptysis, and other tubercular diseases, in the Millbank Penitentiary, is 16·113 in 1000. English county prisons 4·772. Inhabitants of London, between the ages of 15 and 70, 4·407. Eastern Penitentiary, Pennsylvania (white convicts), 12·864. Anburn State Prison, 9·892.

## Selections from British and Foreign Journals.

### THERAPEUTICS.

#### ON THE EXTRACTION OF IODINE FROM THE ANIMAL FLUIDS.

Signor Righini has suggested the following plan for separating iodine from the animal secretions, where this substance has been exhibited medicinally in the form of iodide. The urine of the patient is allowed to remain at rest for two or three days, during which time a deposit takes place, consisting of phosphate of lime and the iodides of potassium and sodium with some other salts. The urine is poured off clear from this sediment, and submitted to a cold temperature, which is gradually reduced to 32°: the aqueous portion is hereby frozen, and the residuary liquid holds the various saline compounds in solution. This liquid is mixed with the sediment previously obtained, and concentrated sulphuric acid is added, until there is no further effervescence. The mixture is now diluted with distilled water, a solution of starch is added, and well mixed with the whole. In a few hours, the whole of the iodine is precipitated as iodide of farina, from which it may be obtained pure by volatilization. When the operation is well conducted, one half of the iodine contained in the iodides

used medicinally, may be thus procured. By the same process iodine may be extracted from the saliva of patients who are undergoing this kind of treatment. This saliva is a limpid liquid, containing much more iodine than the urine, and therefore yielding that principle in much larger proportion. This method of obtaining iodine from the animal fluids, has been suggested by M. Righini as a means of avoiding the great loss occasioned by the extensive use of its medicinal preparations. He has succeeded in procuring it so pure, as to render it again applicable as a medicine.—*Gaz. Méd.* Fevrier 1846.

### ON THE EXTRACTION OF IODINE FROM IODIZED BATHS.

The large employment of iodized baths at the hospital of St. Louis, induced MM. Chantrel and Labiche to try many experiments for the purpose of economically extracting the iodine. They estimated that the quantity of this substance, either free or combined, amounted in each bath to about half an ounce. The plan which they recommend, is as follows. They first separate the free iodine by the addition of starch; they then decompose the alkaline iodides by chlorine, and add more starch, mixed in a large quantity of water. The mixture is frequently agitated for an hour; it is then allowed to stand, and the clear liquid is poured off. The deposited iodide of farina, diffused in a small quantity of water, is submitted to a current of sulphurous acid gas, whereby sulphuric and hydriodic acids are produced. The clear liquid is poured off; and the sediment well washed with water, which is afterwards mixed with the mother liquid. Potash is now added to this liquid, and iodide of potassium and sulphate of potash result: a small quantity of sulphur is at the same time deposited. The liquid is then evaporated to a syrupy consistence, and the iodine is extracted from it in the usual way, by the employment of sulphuric acid and peroxide of manganese. The starch, which is separated from the iodine by sulphurous acid, may, after washing, be used in another operation.

It has been long known that charcoal speedily removes the colour of iodide of farina. M. Labiche has found that this is due to an intimate combination of charcoal with iodine. When the charcoal is incinerated with potash, the iodine is readily procured by means of sulphuric acid and peroxide of manganese.

The blue iodide of farina will also yield iodine readily by incineration with an alkali. Thus M. Labiche succeeded in extracting iodine from the water of the baths, by mixing the iodide of starch, procured according to the method above described, with a little finely-powdered quick-lime. The iodide may be at once mixed into a paste with cream of lime, and then incinerated in an iron vessel; the ash thus procured, treated with sulphuric acid and peroxide of manganese, yields iodine readily.—*Ib.*

## PHARMACY.

### NEW METHOD OF PREPARING LACTATE OF IRON.

Lactate of iron has been hitherto prepared by digesting lactic acid on iron-filings. The operation may be conducted in a flask on a sand-bath at a gentle heat, and a very good product is obtained. There are, however, certain objections to this process: 1. That the lactic acid must be itself prepared in the first instance. 2. The action of the diluted acid on iron, even when aided by heat, is exceedingly slow. Seeing these difficulties, M. Lepage has proposed the following plan for its preparation, which yields satisfactory results, and is much more expeditious than the old process:—

| | |
|---|---|
| Lactate of lime . . | 100 parts. |
| Boiling water . . | 500 ,, |

Dissolve and filter.

Next dissolve 68 parts of pure crystallized sulphate of iron, in 500 parts of distilled water, and filter. Mix the two solutions in a flask, and slightly acidulate the liquid with lactic acid. The decomposition may be aided by a gentle heat, and when this is accomplished, the liquid may be filtered to separate the sulphate of lime, and afterwards rapidly evaporated in an iron or porcelain vessel. If the latter be used, some iron filings must be added. When its bulk is reduced one half, it may be again filtered and allowed to crystallize. The mother-water decanted and carefully evaporated, will yield a fresh crop of crystals. The crystals may be collected on a funnel, washed with a little alcohol, and dried on blotting paper. The salt thus obtained is quite white, and its solution in distilled water is not affected either by nitrate of barytes or oxalate of ammonia.—*Gaz. Médicale*, Fev. 1846.

## SURGERY.

### EXTENSIVE WOUND OF THE KNEE-JOINT—DIVISION OF THE PATELLA, AND EXCISION OF A PORTION OF THE INNER CONDYLE OF THE FEMUR—RECOVERY. BY DR. J. B. JOHNSTON.

A boy of good constitution, ætat. 11 years, while sitting astride on a low billet of wood, with his knees much bent, received a blow from an axe on the left knee from below upward; the axe first took effect on the lower extremity of the patella, which it completely split, dividing it into an anterior and posterior portion; the inner edge of the instrument next came in contact with the inner condyle of the femur, from which it

all but severed a portion of its articulating surface. A few minutes after the injury, the limb was found extended, and presented a large flap-shaped gaping wound over the knee-joint; attached to, and drawn upwards with the upper portion, could be distinctly perceived the anterior section of the patella; in the centre of the wound the articulating surfaces of the femur and tibia were felt; at the lower part, the remaining or posterior section of the patella was found *in situ*, being retained by its ligament: while, protruding from the inner angle of the wound, and attached only by a small pedicle of cartilage, was a portion of the inner condyle of the femur, measuring about an inch and a half in breadth, and nearly half an inch in thickness, the whole under surface of which lined the articular cartilage. There was no perceptible escape of synovia, the limb having been kept extended from the moment the injury was received. Dr. J. determined to attempt to save the limb. To diminish pain and to alleviate the shock to the system, a powerful dose of muriate of morphia was immediately administered; the protruding portion of the inner portion of the inner condyle was then removed, and care being taken not to bend the limb, the edges of the wound were brought together by four interrupted sutures, with adhesive straps between them. A splint was placed under the joint, and the limb placed extended in a fracture-box, and evaporating ice-cold lotions continually applied night and day over the wound; these were continued for eight days, after which period the lotion was applied without the ice for some days longer. By these means the fever and inflammation were subdued. Between eight and eleven days all sutures were removed. The adhesive plaster was only found necessary till the thirteenth day, the parts beneath being adherent throughout their extent, after which Liston's red lotion was applied. There was no suppuration or formation of abscesses. On the seventeenth day after the accident, the wound had nearly all cicatrized. In three weeks from the receipt of the injury, the patella appearing to have united, the splint was removed, and very gentle passive motion of the limb commenced, without causing pain, which was continued and gradually increased every day afterwards for some time, the limb being returned to the fracture-box afterwards.

On the 5th of May, being the fourth week, the limb was taken out of the box altogether; by the fifth week, the lad was able to go about on crutches, to bear his weight on the wounded leg, and also to raise the leg by the power of its own muscles. At this time the knee-joint remained somewhat puffy and swollen, which state was removed by applying the tincture of iodine. On the 15th of May the lad could bend the leg backwards to a right-angle with the thigh. From this time the improvement in the motion of the limb was progressive; the patella, though considerably altered in shape, was perfectly united, and its motion was as free as that of the other side. For some months the lad was slightly lame, but he at length perfectly recovered the use of the limb in every respect.—*Montreal Medical Gazette.*

## Correspondence.

### ON THE DEGREES GRANTED BY THE UNIVERSITY OF LONDON.

Sir,—In the Parliamentary paper recently issued by the House of Commons, enumerating the number of degrees granted by the various medical corporations of Great Britain, the return from the University of London, which is signed by the Registrar, Dr. Rothman, contains this remarkable paragraph:—

"The word diploma is not used by this University; neither does it grant licences to practise."

Such an important statement deserves serious attention; and as you have made, on more than one occasion, some very judicious remarks respecting medical certificates in the Gazette, permit me therefore to ask you, or, through your pages, any medical jurist, the following questions:—1st. Would the authorities of an asylum be warranted in receiving an insane patient into their establishment, on certificates signed by graduates of the University of London? 2dly. Would the Commissioners in Lunacy consider such patient legally confined? And 3dly. Could an action at law be sustained in the courts against the parties signing such certificates, or receiving such a patient? To my mind these points are of the utmost importance, as well to medical practitioners as to the public at large, as they materially affect the liberty of the subject, and the just rights of the profession. Excuse this intrusion on your valuable time, and allow me to add that a reply in your influential journal would much oblige

A Graduate in Medicine.

14th February, 1846.

*** We shall probably make some remarks on the document referred to by our correspondent, in our next number.

# Medical Intelligence.

## THE HUNTERIAN ORATION.

We are indebted to a correspondent for some particulars respecting the Hunterian oration delivered at the Royal College of Physicians, on Saturday last, by Mr. Lawrence, one of the Vice-Presidents. We were prepared to hear that many members of the College, could not obtain admission, into what is, beyond all question, the worst theatre belonging to any scientific institution in Europe. It has been so constructed as to contain in a most inconvenient manner, about one fiftieth of the number of those who can claim a right to sit in it. The old theatre in Portugal Street was bad enough, but this is far worse in respect to accommodation; and while the members go on yearly increasing, the want of proper accommodation becomes still more glaring. The College might take an example in this respect from the Royal Institution, or even from the London Institution in Finsbury Circus. At present the privilege of entrance depends chiefly upon the muscular development of the Members!

One cause of the anxiety to hear the oration was probably the expectation that some announcement would be made respecting the various matters in dispute between the College and its members. After apologizing for the inconvenience to which those present, were subjected by the small size of the theatre, Mr. Lawrence stated that in his opinion, the large number of gentlemen then assembled, afforded a striking denial to the assertions made out of doors, that the College was losing public confidence and respect. The Council had long been of opinion that an annual oration was apt to become monotonous; hence last year they determined to omit it altogether. They were not yet certain whether it would not be advisable to make the oration triennial, but owing to the strange report which had been circulated that the College was afraid to meet its members, they thought it prudent that one should be delivered on the present occasion. His presence, therefore, was to be regarded as a complete contradiction to all such insinuations. The orator then entered into a full explanation of the policy of the Council, and endeavoured to show how far, for the benefit of the members, they had exceeded the stipulations of the charter, in the formation of a medical library not equalled in this country,—in extending the Museum to more than double its original size,—in having produced at an enormous outlay of labour, most elaborate catalogues of the preparations,—in having established scholarships as rewards of merit to the students of all hospitals, and in having appointed hebdomadal demonstrations of the minute tissues, by the microscope. After enumerating these and other meritorious acts on the part of the Council, he begged to ask upon what ground it could be said that they feared to meet the members of the College. He then attempted to shew that the establishment of a Royal College of General Practitioners, was utterly absurd. [These remarks were received with mixed expressions of censure and approbation]. Amidst loud calls of question, (!) the orator then passed to the more immediate subject for which they had assembled; and in the most elegant and expressive language repeated the well-known eulogiums upon Hunter, not omitting to mention at the same time, the names of Harvey, Sydenham, Radcliffe, Meade, Pringle, Jenner, and others.

The oration occupied two hours in its delivery, and was, on the whole, a curious medley of beautiful language in praise of Hunter, and of severe satire on the general practitioners and the Apothecaries' Society! Much of the discourse seemed to be entirely inappropriate to the occasion, and more fitted to increase the discord already existing, than to create a proper feeling of unity among the members of the medical profession.

## RESIGNATION OF SIR B. BRODIE.

It is reported that Sir Benjamin Brodie has resigned his office as a member of the Court of Examiners of the Royal College of Surgeons, and that Mr. Green will be elected in his place.

## A BOLD SURGICAL OPERATION.

A man, aged 32, had an enormous scirrhous tumor which occupied the whole of the right side of the face. Several hospital surgeons had been consulted respecting it, but they had given opinions that nothing could be done. One, however, rather bolder than the rest, resolved upon its removal by an operation. He first secured the carotid artery on that side, and then proceeded to extirpate the tumor. The operation was completed in three-quarters of an hour. The next day the dressings were loosened, and immediately symptoms of suffocation showed themselves. The patient died in a few hours; and on inspection it was found that the ligature, applied to the carotid artery, had completely secured the *pneumogastric nerve* and an accompanying *vein!* The reporter of the case observes, that we have rarely an opportunity of studying the effects of a ligature upon the pneumogastric nerve in the living subject! —*Gaz. Med.* 1846.

### A FRENCH VIEW OF MEDICAL REFORM IN ENGLAND.

THE medical profession in Great Britain is about to lose that character for gravity and peacefulness which it has hitherto enjoyed. Clamour and dispute prevail on every side. The physicians complain of the Apothecaries, because the latter are making money too fast; the apothecaries complain of the druggists for running away with their profits; the quacks complain of the manner in which they are hunted down by all parties. The only parties who do not complain are the patients!—*Gaz. Med.* Fev. 1846.

### MEDICAL REFORM IN SPAIN.

THE same journal informs its readers that a rebellion has broken out among the medical students of Seville in consequence of an order having been issued by the authorities to the effect, that they should not be permitted to attend the courses of lectures *without cravats!*

### A NEW EFFECT OF MESMERISM IN SURGICAL OPERATIONS.

A YOUNG lady upon whom the operation for dividing the tendo-Achillis was about to be performed, was thrown into a mesmeric state for the purpose of rendering her insensible to the operation. While the operator was making the section, the patient made a slight humming sound. Some of the bystanders, who were not aware that the somnambulic state in this lady, was generally accompanied by a strong tendency to *sing*, thought that these sounds were indicative of pain, but in the course of a short time her voice cleared up and the patient sang vigorously. Eight persons, including *five physicians*, were present at the operation, and all felt perfecly convinced of the great utility of mesmerism in surgical operations!

*** That a person should be able to resist the expression of pain, during the performance of this or even of a more severe operation, is nothing wonderful; but the *singing* is a new feature of the remarkable mystery known under the name of animal magnetism; and on the part of a female, it may be regarded as a very delicate way of shewing gratitude to the operator! Unfortunately for the credit of the story, it rests upon the authority of a notorious mesmeric journal.

### NEW INJECTION APPARATUS.

AT page 259 of our last volume, we described a new enema apparatus, constructed by Messrs. Philp and Wicker, on the principle of causing the propulsion of the liquid by the elastic force of air condensed in a close vessel. This principle has been recently applied by Messrs. Stevens and Pratt to the construction of what they call a "Pneumo-anatomical Injecting Apparatus," —the vessel in which the air is condensed holding the injection in a melted state (if necessary), until it is required for use. A pipe passes from the condenser, which may be fitted into another connected with the bloodvessel. This pipe is secured by a stop-cock, so that the flow of liquid, as in he enema apparatus, is perfectly commanded, and can be regulated to any degree at pleasure. This is undoubtedly a very great improvement on the old method of injecting by a syringe, in which the injection often failed, owing to the liquid being thrown in by jerks, and in unequal quantities. The wonder is, that the principle of the air-condenser has not been applied to this purpose before.

### ON THE NECESSITY FOR A TEST OF COMPETENCY BEFORE A PERSON IS ALLOWED TO PRACTISE LAW OR PHYSIC.

THERE are certain important matters upon which men are compelled to rely upon the knowledge of other men, which knowledge they cannot measure because they have it not themselves, and a pretender to which might do irreparable mischief to body or estate, before the employer could possibly ascertain his incapacity. If, for instance, a tailor be engaged to make a coat, let him be ever so ignorant of his art, the worst that can happen is the spoiling of a few yards of cloth, and the customer would prevent further damage by resorting to some abler craftsman. But if a surgeon or an attorney be employed without some guarantee for knowledge of his duties, the mischievous consequences of his ignorance may not be discovered until life was sacrificed in the one case, or property in the other. Therefore, to *protect the public* against the evils of ignorance, which each individual could not possibly ascertain for himself, the ordeal of an examination previously to permission given to practise these professions, has been wisely established; the public testimonial of fitness thus relieving each member of the public from the difficulty of instituting an inquiry for his own satisfaction, before he resorts to a professor of medicine or of law.—*Law Times*, Feb 14.

### OBITUARY.

WE regret to announce the death of Sir G. W. Lefevre, M.D., which took place on the 12th instant. Sir George Lefevre was for many years attached to the British Embassy in St. Petersburgh. He had travelled over the greater part of Europe, and was well known as the author of several interesting essays, written as much for the instruction of the public as of the profession. It is only recently that we published, in this journal, the Lumleian Lectures delivered by him at the Royal College of Physicians dur-

ing the last spring. Sir George was much respected by those who knew him.

On the 2d instant, at his residence, 46, Finsbury Square, John Jones Davies, M.D., only surviving son of Edward Davies, Esq., formerly of the Hon. East India Company's Service, aged 26, most deeply lamented.

## ROYAL COLLEGE OF SURGEONS.

*Members admitted to the Fellowship in August* 1845.

(Omitted to be inserted under its proper date.)

William Peter Nichols, Norwich.—Frederick Harrington Brett, Brompton Square.—Edward Stephens, Manchester.—Richard William Spicer, Chard, Somerset.—George Lionel Fitzmaurice, Gloucester Place, Portman Square.—Thomas Fereday, Dudley.—Thomas Storm Robertson, Assembly Row, Mile End.—James Whitehead, Manchester.—Geo. Warren W. Firth, Norwich.—Richard Henry Meade, Bradford, Yorkshire.—Martin Thomas Hiscox, Bath.—Henry Savage, Dorset Place, Dorset Square.—John Philips Potter, Regent Street.—Nathan. Ward, Wellclose Square.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *Feb.* 12.—William Home Popham, Cork.—Thomas Atchison, Aylesbury.—Charles John Farr, Saxmundham.—William Bainbridge, Lincoln.—Hector Helsham, London.—Charles Shepherd Lenton, 33, Leicester Square.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, Feb.* 7.

| Births. | Deaths. | *Aver. of 5 yrs.* |
|---|---|---|
| Males.... 747 | Males.... 456 | Males.... 493 |
| Females . 797 | Females . 458 | Females . 474 |
| 1544 | 914 | 967 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 140 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 189 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ..... (Pop. 374,759) | 155 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ..... (Pop. 393,247) | 187 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich (Pop. 479,469) | 243 |
| Total ..... | 914 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Winters; Col. B. of 5 Years.

| | A. | B. |
|---|---|---|
| ALL CAUSES ..... | 914 | 1080 | 967 |
| SPECIFIED CAUSES ..... | 911 | 1073 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 170 | 183 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 118 | 115 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 175 | 169 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 259 | 363 | 294 |
| 5. Heart and Blood-vessels ..... | 33 | 30 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 67 | 69 | 72 |
| 7. Diseases of the Kidneys, &c... | 8 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 8 | 12 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 14 | 7 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 4 | 2 | 2 |
| 11. Old Age..... | 35 | 90 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 20 | 27 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 5 | Convulsions .... | 55 |
| Measles ..... | 26 | | |
| Scarlatina ..... | 16 | Bronchitis ..... | 46 |
| Hooping-cough.. | 51 | Pneumonia..... | 71 |
| Typhus ..... | 37 | Phthisis ..... | 111 |
| | | Dis. of Lungs, &c. | 10 |
| Dropsy..... | 16 | Teething ..... | 13 |
| Sudden deaths .. | 7 | Dis. Stomach, &c. | 4 |
| | | Dis. of Liver, &c. | 13 |
| Hydrocephalus.. | 38 | | |
| Apoplexy..... | 18 | Childbirth ..... | 7 |
| Paralysis..... | 25 | Dis. of Uterus, &c. | 1 |

REMARKS.—The total number of deaths was 166 below the winter, and 53 below the annual average. The deaths from Zymotic diseases, with the exception of Hooping-cough, were below the averages. The mortality from Measles is now reduced to about the winter average. The deaths from Hooping-cough have much increased. In all the districts, the mortality was below the average.

## METEOROLOGICAL SUMMARY

Mean Height of Barometer .....29·76
„ „ Thermometer[a].....43·7
Self-registering do.[b] ..... max. 60·2 min. 29·
„ in the Thames water. — 46· — 44·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 1·: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was 5·7° above that of the mean temperature of the month (38°). The extreme hebdomadal range in the self-registering theremometer was 31·2°.

## NOTICES TO CORRESPONDENTS.

We are obliged to Professor Samuel Cooper for the papers which he has forwarded to us.

The advertisement referred to by Dr. Bennet has been cancelled.

We shall be glad to receive Mr. E. Copeman's papers weekly, and they shall appear as early and as frequently as our arrangements with other correspondents will permit.

We beg to acknowledge the receipt of the "Liverpool Mail" newspaper.

Mr. H. George's communication on Traumatic Trismus will appear in our next number.

A lecture by Dr. Lever, and the contributions of Dr. Hughes, Dr. Shearman, and Dr. Glover, will appear next week.

*Received.*—A Graduate of Medicine.—Mr. George.—Dr. Wardell.—Dr. Glover.—Dr. Dick.

## Lectures.

### CLINICAL LECTURE ON ENLARGEMENTS OF THE UTERUS.

*Delivered at Guy's Hospital,*

By J. C. W. Lever, M.D.
Physician-Accoucheur, and Lecturer on Midwifery at Guy's Hospital.

Lecture V.

Permit me, gentlemen, to solicit your attention this morning to three cases at present under treatment in Petersham Ward, demonstrating the manner in which the uterus may be enlarged from different causes.

Case I.—*Persistence of puerperal hypertrophy; subacute inflammation. Treatment: local depletion; mercury; hip-bath. Ulceration. Cure by the application of the nitrate of silver.*

S. B——, æt. 22, an unmarried woman, with dark hair, and pale and anæmiated aspect, was admitted into Guy's Hospital on September 10th, 1845, two months after giving birth to a male child. Menstruation commenced at the age of 15. When 16 years of age, while at the sea-side, she got her feet wet; this induced a severe cold, and was attended with a protracted attack of flooding. The following year she suffered from a similar attack, and from the same cause; but during the interval was in every respect tolerably well. For some years she has suffered from leucorrhœa; and in the month of October last contracted gonorrhœa, for which cubebs, copaiba, &c. were prescribed, and astringents were injected, but without cure. Her labour was tolerably easy.

*Symptoms on admission.*—The face is pale, eyes bright, surrounded with a dark areola; tongue pale, and indented on the edges; respiration normal; pulse small and quick; abdomen rather tympanitic, free from tenderness in every part with the exception of the uterine and ovarian regions. She complains of pain in micturition, with difficulty and pain in defæcation; there is a sensation of dragging behind the pubes; occasionally there are paroxysms of pain, commencing at the uterus and darting outwards to the cristæ ilii, but not extending down the thighs. The mammæ are large, full, and distended with milk (her child was left with her mother). Examination "per vaginam" found the canal lubricated with a copious mucoso-purulent secretion; the urethra large, swollen, and tender; the uterus large, its size much greater than is usually found two months after delivery its neck tense, the lips of the os thick and tender, with the glandulæ Nabothi prominent; on the upper part of the vagina pressure on either side gave excessive pain, and in this situation an indistinct fulness was found; the mobility of the viscus was diminished. The finger passed "per rectum" detected the calibre of the intestine to be diminished by the pressure and size of the enlarged womb.

Hirud. xij. abd. inferior applic. ℞ Ol. Ricini, ℥ss. cras mane sumend. The breasts to be strapped with soap-plaister.

11th.—The leeches have relieved the pain; the milk has diminished, and she feels much better.

℞ Liq. Plumbi Diacet. ℥ij.; Dec. Papav. Oj. ft. lot. ter die injiciend. Mist. Gent. C. ℥iss. ter die sum.

15th.—The pain is still very violent; there is yet fulness and tenderness, and the discharge is very abundant.

Hirudines xij. rep. ℞ Hyd. c. Cretâ, gr. iij.; Pulv. Ipecac. c. gr. v. omni nocte et P.

21st.—Vaginal examination detected the size of the uterus to be considerably reduced; the womb is less tender when pressed by the examining finger; the pains still occur in paroxysms, but they are comparatively slight, and of short duration.

25th.—Has considerably improved; pulse small and weak.

℞ Acid. Nit. Dil. ♏x.; Tinct. Cinch. c. ℥j.; Dec. Cinch. ℥x. M. ft. Haust. ter quotidie sumend.

29th.—The discharge has increased to-day; it is yellow and puriform, but it assumes different colours at different times.

Oct. 5th.—Complains of pain in the back and groins. She fancies that this increase of pain is precursory of menstruation, a month having elapsed since she weaned her child.

10th.—Pains diminished, but the catamenia have not appeared.

15th.—The uterus is soft and flabby; the os is spongy and patulous, and the whole of the vaginal portion of the uterus is doughy, though tender.

19th.—There is more pain in the groin and back, and the discharge is more thick.

Hirudines viij. abd. inf. et inguinibus applic. Hyd. c. Cretâ gr. ij.; Pulv. Ipecac. c. gr. iij. ft. Pil. omni nocte sumend.; Mist. Gent. c. ℥iss. ter quotidie.

21st.—The leeches did not bleed freely, and the pains are not relieved. Bowels very

much relaxed, and considerable pain precedes and accompanies their action.

℞ Syr. Ferri Iod. 3j. ter quotidie ex Dec. Cinch.

25th.—There is still considerable pain in the groins and back, and the discharge is profuse and mucoso-purulent; the uterus is diminished in size, and the posterior part of the cervix is congested, and tender to the touch. This was scarified, and with relief, although she complained of the pain caused by the operation.

29th.—Posterior part of the cervix still tender, and as she suffered much from the introduction of the speculum, she was ordered to be cupped on the loins to ten ounces, which she affirms has given her greater relief than either the scarification or the leeches.

Nov. 4th. — Has greatly improved in strength. Complains of pain in the left groin, which, on examination, is found to arise from an inflamed gland. Gums slightly affected.

Omit Pulv. Perstet. c. Mistura.

7th.—For twenty-four hours she has had symptoms which she says usually precede menstruation, but as yet the discharge has not appeared. She was ordered a hip bath.

11th.—Menstruation has not appeared, although the pains in her back continue; the leucorrhœal discharge is more profuse.

13th.—She complains of great pain in micturition; the urethra is swollen, especially the posterior lip of the meatus; its lining membrane is excoriated, and very sensitive. To this Arg. Nit. was applied; there was appearance of blood in the discharge. The urethra was scarified.

17th.—No return of blood; considerable pain in micturition, and urethra still swollen and painful; the discharge continues thick and viscid: there is some irritability of the bladder; the calls to void the urine frequent. The scarification of the urethra was repeated, and with benefit.

℞ Decoct. Conii Fol. ter die tepid injiciend.

22d.—Pain in the back has increased; blood is occasionally voided with the discharge. A small speculum was passed, and ulceration found on the anterior lip of the os uteri. To this the Arg. Nit. was applied.

24th.—Improved in every respect. Discharge less; ulceration healing.

Dec. 4th.—There is considerable pain in the back, accompanied with bearing down; there is slight appearance of the catamenia, which are dark and mixed with coagula.

5th.—Menstruation proceeding, although sparingly; all her symptoms are relieved.

9th.—Catamenia more plentiful and (she says), attended with less pain than before her pregnancy.

16th.—Nearly free from pain.

*History.*—It appears that this young woman had for some time previous to her proving pregnant, carried on an illicit intercourse with a gentleman connected with the family with whom she lived as servant. She had suffered from an acute gonorrhœa, to relieve which various external and internal remedies had been advised; but although the activity of the disease was allayed, a copious discharge continued up to the period of her confinement. For some years she had a leucorrhœal discharge, which had invariably been increased after the cessation of the catamenia. Her labour was good; in fact, for a first confinement, easy: her child was small and puny, although born at the full period. About a week or ten days after her delivery, she suffered from central pains shooting through the pelvis and thighs, and which continued increasing and decreasing up to the period of her admission. Her milk was moderate in quantity, and not sufficient to satisfy the cravings of her child.

*Symptoms on admission.*—Her countenance, on admission, bore evidence to the duration and extent of her sufferings; her eyes, although bright, were sunken, and surrounded with dark areolæ; her face was pale; her tongue clean, flabby, and indented at the edges; her pulse was small and quick; she could not walk without bending her body; neither could she sit with her body erect. When desired to place her hand on the seat of pain, she laid it over the region of the uterus and ovaries. Her abdomen, when examined, was subtympanitic; it was all over resonant, except at the inferior portion, where palpation discovered the uterus large, and rising higher into the abdomen than the length of time which had elapsed since her confinement would lead us to expect; the examination could not be very accurately, made from the great pain occasioned when the abdominal walls in front of the uterus and ovaries were pressed upon. There was pain in micturition and defæcation, and some obstruction was offered to the passage of the motions; there was a sensation of dragging behind the pubes, increased by her standing, or attempting to assume the erect posture. Occasional darting pains, commencing at the uterus, and coursing towards the crista ilii on both sides, were complained of; her pulse was small and quick, and, having been advised to wean her child before she came into the hospital, her mammæ were large, full, and distended with milk. Examination "per vaginam" found this canal free from tenderness, except at the upper part, but bedewed with a copious discharge of a

mucoso-purulent character. The urethra was swollen and tender; the uterus was large, tender, and weighty, lying back on the rectum, with its usual mobility diminished; the os and cervix thick, and causing considerable pain when pressed by the finger; the glandulæ were prominent; the upper part of the vagina on either side was hard and exquisitely sensitive. The finger passed into the rectum found its calibre diminished by the antecumbent uterus.

*Diagnosis.*—When submitting this girl to an examination, I did not measure the length of the uterine cavity with the sound, for the tenderness of the uterus was so great that I was anxious to avoid giving her pain, and I dreaded the chance of increasing irritation by means of this instrument. She was suffering, I had no doubt, from chronic metritis, with subacute inflammation of the pelvic cellular tissue. This, I think, must be allowed when we take into consideration the time when her pains commenced, the tenderness, size, and immobility of the uterus (two months after delivery), as ascertained by a vaginal and rectal examination and external palpation; the hardness, fulness, and tenderness discoverable by the hand, when placed over the region of the ovaries, and the full, prominent, hard, and tense condition of the upper part of the vagina on either side of the uterus.

Although I did not employ the uterine sound in this case, yet you will find cases occasionally come before you in which it will enable you to decide whether a tumor seated in the lower part of the abdomen, and occurring after delivery, be the uterus itself or a pelvic abscess following delivery, and thus will enable you, not only to give a correct diagnosis, but will materially assist you in your treatment.

As a rule, you will find that whenever disease of a serious nature attacks a patient after delivery, the size of the uterus does not diminish so quickly as under more favourable circumstances, the process of absorption doubtless being arrested or retarded by the disease. This arrest or diminution in the size of the uterus after delivery has been observed by Dr. Hooper. I must be pardoned if I for a few minutes digress, by relating to you a case in some degree bearing upon the subject, and demonstrating the value of the sound as an auxiliary in uterine diagnosis. A few months since, a woman brought her daughter to my house, and requested me to prescribe to her under the following circumstances:—the young woman was about 24 years of age, unmarried and imbecile; the mother informed me that she had suffered from a copious discharge for four or five days, which at first was red, but at the present time had an offensive smell; she could give me no account of the performance of the catamenial function, as her occupation took her from home for weeks together. The girl was pale, and could scarcely walk into my room with assistance; she had walked the distance of a mile to my house, and when admitted she was much exhausted: she was immediately placed upon a couch, and after she somewhat recovered an examination of the abdomen was made; its walls were found relaxed, and a rounded, moveable, painless tumor could be felt at its inferior part. The finger passed by the vagina found the os uteri torn at its edges, and led me to suspect that the tumor felt through the abdomen was the uterus: this was confirmed by the introduction of the bougie through the os uteri to the extent of seven inches: the finger when withdrawn was covered by a discharge similar in colour, consistency, and smell to the lochia; and my opinion of the case was confirmed by the appearance of the breasts.

*Treatment.*—In speaking of the treatment there are several points to which I must direct your attention; and first, the recumbent posture was most strictly maintained when she was admitted: her sufferings induced her readily to comply with this injunction, but as she improved she occasionally rose from her bed, and this exertion was invariably attended with an increase of pain. Again, local blood-letting was several times practised, and generally with relief. Leeches were applied on three occasions, and the bleeding from the leech-bites was encouraged by warm cataplasms; but as but little blood was lost at the third application scarification of the os and cervix was employed: this was attended with considerable relief, but she complained most bitterly of the suffering caused by the speculum. This led me to order a moderate cupping, which gave her more relief than either the leeches or scarifications. And here you will remember how considerably her pains and sensation of bearing down increased at those periods when the catamenial function ought to have been performed. When engorgement of the womb is associated with amenorrhœa, the local sensibilities are usually rendered more acute, and the pains increased at that period which corresponds to the expected appearance of the menses. The milder forms of mercury were administered in small doses, combined with Dover's powder, every night until the gums were slightly affected, and this moderate mercurial action was maintained for some time. One or two short interruptions to the continuance of the medicine occurred by reason of the appearance of diarrhœa, induced, I believe, by errors of diet, but they were so slight as barely to require notice. While local depletion was thus

from time to time practised, and the system was gently brought under the influence of mercury, the daily evacuation of the bowels was closely attended to. If the evacuations were costive, or even figured on her admission, her pains were increased; but as the uterus diminished in size, the rectum was freed from the pressure of the superincumbent uterus, and the morbid sensibility diminished. While these means were had recourse to, we endeavoured to support her powers by mild tonics; at first the Mist. Gent. Co. was prescribed, then the Dec. Cinch. with the addition of the Nit. Acid and a small quantity of Tincture, and lastly, the Syr. Ferri Iodid, in ʒj. doses three times a day; and this was continued up to the appearance of the catamenia.

The various local remedies deserve a passing notice; anodyne injections were freely and regularly injected into the vagina, and always with comfort. The urethra, which was swollen and tender as far as the neck of the bladder, had its tenderness diminished, and its size decreased, by two or three scarifications; the breach of surface which was detected in the inner margin of the under lip of the urethra healed by the application of the nitrate of silver, which, applied through the glass speculum to the ulcerations detected in the os and cervix, was found to be equally efficacious, while the hip-bath employed regularly twice a week, eased her pain, promoted diaphoresis, and, I believe, assisted in the restoration of the catamenial function. Let me further direct your attention to the plan of strapping the breasts, which was advised on her admission into the hospital; it is most efficacious when practised sufficiently early, and so far as my experience has gone when properly performed never fails to effect the purpose intended.

Case II.—*Chronic inflammation of the Uterus, with hypertrophy. Treatment: Rest; Local depletion; Mercury.*

M. H. ——, ætat. 25, was admitted into Petersham Ward, on Nov. 19th, 1845. She is a pale leucophlegmatic woman; has been married fourteen months, but has never been pregnant; she has had abundance of food, and has lived in a dry and tolerably airy situation, but has always been delicate. Menstruation commenced when she was 14 years of age; her periods were regular, and the quantity of discharge natural, until her marriage, since which time she has scarcely been free from discharge, according to her report of a menstrual character, accompanied with a considerable quantity of mucus. Her present illness commenced about twelve months since, just after one of her periods, when she was exposed to cold and got her feet wet.. She was suddenly seized with extreme pains in the pelvis, sickness and faintness, the lower abdomen was tender on pressure, there was bearing down accompanied with considerable pain in the back, and a thick discharge from the vagina. Continuing for some time under the care of a private practitioner without benefit, she was admitted into a public hospital under the care of a surgeon, and treated at first by cupping, leeches, the internal use of mercury, which produced no effect on the system, hot hip-baths, and subsequently by cold shower-baths. Here she remained for two months, left in some measure relieved, and attended as an out-patient for two months, but with no improvement. From this time until the period of her admission into Guy's Hospital she has been a patient of the Surrey Dispensary. On her admission she complained of great pain occupying the whole of the lower abdomen, but especially its left side, and accompanied with considerable tenderness; there was also dulness on percussion; there was pain in the head; pulse 88, small and feeble; appetite moderate; slight inconvenience in micturition; bowels always torpid, but at all times she experiences great relief after they have been freely acted on by aperients; there is a thick vaginal discharge streaked with blood.

20th. — Menstruation commenced last evening; bowels freely relieved by Haust. Sennæ Co.

22d.—On a vaginal examination there is an abundant thick, gluey, discharge; the uterus is prolapsed; the cervix is globular, tense, and tender; the os is small, but after slight manipulation admitted the uterine sound, which was passed to the extent of $2\frac{3}{8}$ inch; its bulb could be felt above the pubes; the finger passed along the anterior and posterior portions of the cervix found the uterine tissue considerably increased in thickness; the uterus does not possess its usual mobility, and the upper and left side of the vagina is tense and tender.

℞ Hirud. iv. uteri cervici applic. Hyd. c. Cret. gr. vj. hâc nocte et Ol. Ricini, ʒvj. cras mane sumend.

23d.—The bowels were not relieved until an enema was administered; the leeches bled well, and she expressed herself as feeling better.

25th.—Leeches repeated, and with considerable advantage; she sleeps pretty well; there is less external tenderness; the discharge continues, and of the same character.

℞ Pil. Hyd. gr. ij. ; Pulv. Doveri, gr. ij. omni nocte sum. Pot. Iodid, gr. iv. ex Decoct. Sarsæ Co. c. Ext. ter die.

On the 29th, leeches applied; there was considerable pain on pressure over the

uterus, and she experienced more pain during the passage of the motions; bowels freely relieved.

On 2d Dec. leeches applied again, and bled freely.

Perstet.

5th.—The bowels confined; leeches applied, and with considerable benefit; countenance has improved; less abdominal tenderness; on examination uterus is found diminished in size, and less tense and tender.

Rep. Ol. Ricini, st. et P.

9th.—Improving in every respect; states she has not felt so free from pain for months.

The history of this young woman's case is worth your attention; married but fourteen months, she has passed twelve of these either in hospital or under medical care: her catamenial functions had always been performed regularly and painlessly up to the time of her marriage, since which she has never been free from discharge of one kind or other.

*Symptoms on admission.*—Her pale face and anxious countenance bore testimony to the duration and amount of her suffering, directly referred by her to the seat of the uterus and its appendages: there was dulness on percussion, and the uterus itself, enlarged, could be felt above the pubes, although the pain she experienced rendered her impatient of pressure: the left side of the uterus was more full, and returned a dull sound over a larger surface to the percussing finger, than the right; there was slight inconvenience in the evacuation of the urine, and the bowels were naturally torpid, but when relieved by aperient medicines gave her relief.

The finger passed into the vagina discovered the uterus large, prolapsed, with the usual character of its neck entirely gone; it imparted to me the sensation of a globular-shaped polypus, with a slight indentation in the inferior part corresponding to the os uteri: this viscus had lost its usual mobility, and appeared fixed in the pelvis. On the left side of the uterus, at the upper part of the vagina, there was a fulness, but no fluctuation could be detected; the finger when withdrawn was covered with a thick discharge similar to arrow-root made with water, and sticking most tenaciously to the fingers.

The introduction of the speculum caused considerable pain: the neck of the womb was found to be red in colour, and had a shiny tense appearance, but free from ulceration. Did the enlargement of the uterus and alteration of its neck depend upon the development of any body within its cavity? The uterine bougie was passed with a little manipulation to the extent of 2⅔ inches (this patient had never been impregnated), and the fundus of the uterus, raised by it, was brought more readily forwards towards the abdominal parietes for examination.

*Diagnosis.*—This case appeared to me to be one of hypertrophy of the uterus from chronic inflammation, with engorgement and induration commencing at marriage, probably excited by sexual intercourse, and continuing uncured, and occasionally aggravated by various causes, up to the present time. Doubtless the uterine appendages to a greater or less degree were involved, especially on the left side, for on her admission the dulness, tenderness, and hardness, both external and internal, led me to fear the development of pelvic abscess.

The treatment of this woman's case has consisted, first, in making her maintain the recumbent posture; in fact, for her recovery perfect rest is absolutely necessary.

Secondly, leeches have been applied by Mr. Kent, the clinical clerk, to the cervix: this is readily accomplished through a tube: they have bled freely, have lessened her pain, and have most certainly diminished the engorgement, and therefore the size of the uterus. It is my intention to put her under the influence of mercury, and for this purpose she takes the blue pill in two-grain doses night and morning: as yet it has shewn but little or none of its specific influence upon the gums: indeed she states that on a previous occasion she took large quantities, and for some time, without any effect being produced; but as I have only her testimony on this point, I shall proceed cautiously, and judge for myself as to her tolerance of this medicine. When I succeed in affecting her system I shall maintain the mercurial action for some time, and this I expect will exercise a decided influence and reduce the volume of the enlarged uterus. As an auxiliary in her treatment we have given her the iod. of pot. in 4 grain doses.

Attention is paid to the state of the bowels, which, naturally torpid, require occasional aperients. When I succeed in relieving the engorgement of the uterus, when the tension and sensibility of this viscus are removed, I shall have recourse to the local application of iodine: this I have seen most successful in the removal of indurations in the uterus the result of chronic or long-continued subacute inflammation; but to the results of our remedies in this case I shall on a future occasion direct your attention.

CASE III.—*Enlargement of the uterus—Value of uterine sound in diagnosis.*

S. R., æt. 35, a healthy-looking woman, with light hair and fair complexion, was admitted into Guy's Hospital on Dec. 23d: she is a widow, and has never been pregnant. She began menstruating at the age of 16, and her catamenial functions have been performed with tolerable regularity. She has

lived well, and of late has filled the office of a nursemaid. Her present illness commenced twelve months since, with pains above the left inguinal region, accompanied with a constant sensation of sinking and faintness; these have always been aggravated at the monthly periods. Medicines were prescribed, and leeches applied, with but little benefit. In March last she first detected a swelling in the lower and left side of the abdomen, which gradually increased till October, and from that month until the period of her admission its increase has been rapid. A month since, after great exertion, she had a copious discharge of blood, which lasted for twenty-four hours, and was arrested by medicine.

*Present symptoms.*—Her appearance is tolerably healthy: her respiration is regular, her pulse tranquil, and appetite good. The abdomen is enlarged by a swelling which extends from its lower part some distance above the umbilicus: percussion returns a dull sound over the tumor, but a clear sound in the region of the transverse arch of the colon above the tumor, which is firm and moveable; it appears to be harder and more defined on the left side, although the right side appears to protrude more than the left; a strong impulse is given to the tumor by the pulsation of the aorta. After walking or standing her legs swell, the right more than the left; her bowels are confined, and seldom act unless she takes aperient medicine; there is dragging pain in the back, increased when she assumes the erect posture, pain in the thighs, &c.: her tongue is moist and clean; secretions natural; pulse 70, regular, and of good volume. The finger introduced into the vagina detected nothing abnormal in that canal: os uteri was seated high up, and was directed backwards; it is free from disease: the movements of the former caused by the hand laid on the abdomen were communicated to the os uteri, and vice versâ: the uterine sound was without difficulty passed into the uterine cavity to the extent of nearly $7\frac{1}{2}$ inches: it could not be moved freely in the cavity, and when the handle was depressed its bulbous extremity could not be readily felt, but the tumor was pressed forwards against the abdominal walls. The mammæ were small and flat, and the nipples small. The circumference of the abdomen at the umbilicus was 35 inches; from the umbilicus to the anterior and superior spinous process of the right side she measured $8\frac{1}{2}$ inches; from the umbilicus to anterior and superior spinous process of left side 8 inches; midway below pubes and umbilicus, from anterior and superior spinous process, 15 inches.

To this case, although but a short time in the ward, I desire to direct your attention, as it presents many points of interest. The abdomen, enlarged to the extent it now presents, she maintains was of its natural size before March last; and during that month she first noticed a swelling in the situation of the left ovary: this swelling continued to increase until the period of her admission, its size rapidly enlarging in the few weeks preceding her entrance into the hospital.

*Symptoms on admission.*—Her health she reports as "good;" her appearance is most certainly healthful: the respiration is normal, heart's action moderate and regular; she takes her food with appetite, and her spirits are not depressed. The abdomen, when uncovered, is prominent, of natural colour, and free from enlarged or distended veins: the enlargement can be felt to extend from the symphysis pubis to some distance above the umbilicus: its lateral boundaries can be readily felt above the tumor. The situation of the intestines can be detected by percussion; and these are also behind the upper part of the enlargement, for slight percussion over its superior portion elicits no sound, while smart percussion gives a clear resonant return to the fingers. The tumor is regular on its surface, and firm. The abdomen is more distended on the right than on the left side, and this appearance was verified by measurement: from the umbilicus to the anterior superior spinous process of the right ileum, there was a space of 8 inches and a half, while the measurement of the opposite side was but 8 inches. The tumor is very moveable; it may be rolled from side to side without distressing the patient, or causing her pain. When she maintains the erect posture it interferes with the circulation of the lower extremities, but the right leg swells more than the left: when she keeps in the recumbent position there is no swelling of the lower extremities, and if she preserve the erect posture for a long time there is dragging in the back, with pain and numbness in the thighs. The breasts are small, and their skin loose. When the ear is placed on the abdomen, or when auscultation is employed, the impulse of the abdominal aorta is felt, and a "bruit de soufflet" heard, arising from the mechanical obstruction to the circulation occasioned by the tumor. And here let me pause to direct you to mark the distinction between the sound heard in this case and the "uterine sound" or "uterine souffle" of pregnancy. In this case a shock is communicated to the ear of the listener: in the uterine sound of pregnancy such is not the case: both, it is true, are isochronous with the maternal pulse; the former must be influenced both in its strength and fulness by the state of the mother's pulse, the latter is not, for frequently when the maternal pulse is strong and full the uterine sound is feeble and distant. A vaginal examination being instituted, I found nothing abnormal in its structure or situation: the uterus was placed high, and the mouth was reached with diffi-

culty: no disease of any part within reach of the investigating finger could be detected: every movement communicated to the tumor through the abdominal walls was felt by the finger in the vagina, and if the os uteri was raised, or moved to either side, the movement could be appreciated by the hand placed on the abdomen. To assist me in the investigation of this case, I cautiously, and without difficulty, introduced the uterine sound to the extent of nearly $7\frac{1}{2}$ inches: it seemed to pass in the very centre of the mass, but its mobility when introduced was limited; by its agency the tumor could be pressed backwards, moved from side to side, or advanced towards the abdominal walls. The bulbous extremity could not be distinctly made out by an external examination, but when the handle of the instrument was pressed backwards, and its point of course tilted forwards, an impulse was given to the abdominal walls by the tumor. The finger introduced into the rectum found the intestine loaded with hardened fæculent matter.

A casual observer might have had an idea that this woman was pregnant: the appearance of the abdomen was not unlike that of pregnancy; the gradual increase in its size, the length of time the swelling had existed, and the period during which it had been observed, would also favour the opinion. An unpractised auscultator might have mistaken the impulse and "bruit" for the uterine sound; but, on the other hand, the mammæ were undeveloped, and none of the symptoms of pregnancy had been felt: the abdomen, when examined by the hand, did not afford the sensation which is given in utero-gestation; no fœtal sounds or fœtal movements could be detected; the mouth and neck of the womb, as examined "per vaginam," were not those of pregnancy; the catamenial functions had been performed with regularity, and a month previous to her admission there had been a copious discharge of fluid and coagulated blood, which rendered it necessary for her to require the assistance of a surgeon. But, although so many of the signs of pregnancy were absent, yet let me urge you to place but little reliance on the testimony of patients in these cases. Many women, and especially widows, are almost as conversant as we are with the common symptoms of pregnancy; and, from numerous instances, I can assure you, they will distort facts, keep back the truth, and give you false answers, for the sole purpose of leading you astray, if they are illegitimately pregnant. They will tell you they are perfectly regular, when the catamenia perhaps have not been seen for several months; they will deny the existence of morning sickness, or attribute it to any cause but the right; and when they present themselves to you in the latter weeks of utero-gestation, they will sometimes asseverate that the swelling has lasted only a week or a month, or that they have been of the same size for two or three years. Illustrations of the truth of what I am now stating you have seen, and will continue to see, among our out-patients; and you will remark that, in investigating suspicious cases, I "beat about the bush," and never, if possible, permit the patient to suspect for what purpose I am putting the question. It is fortunate, however, that in most cases we have the means of forming a correct diagnosis without our patient's assistance.

But the history of this case bore many points of resemblance to ovarian tumor: the pain and enlargement commenced on one side, and thus gradually distended the abdomen: it is true the movements of the tumor were communicated to the uterus, and vice versâ, but that is constantly the case where the connection between the ovarian growth and the uterus is intimate. But there are points in this case opposed to its being an ovarian tumor: the greatest width is on the side opposite to that in which it was first discovered; for there is a difference of half an inch between the two. In ovarian disease, if there be any difference, it is usually in favour of that side in which the disease commenced. The vaginal examination was against the supposition of ovarian disease: but the investigation by the uterine sound most forcibly confirms the belief that it is not ovarian: this was passed into the very centre of the mass, and to the unusual distance recorded in the report of the case. It is true we sometimes have elongation of the neck and cavity of the uterus co-existing with ovarian disease, but not to the extent, or if to the extent, not in the short space of time, which the history of this case warrants me in saying has taken place here. This opinion, however, I would wish to give with caution, for in the 14th volume of the Dublin Journal you will find a case of extra-uterine gestation recorded by Dr. Kennedy, in which the uterus was developed in its length, with very little increase of breadth, to the extent of twelve inches. If this, therefore, be ovarian tumor, the uterus and growth must be very closely connected, and there must be longitudinal hypertrophy of the uterus itself. I am inclined to believe that the tumor is uterine, for the sound passed into the uterus ran behind it, the morbid growth intervening between it and the abdominal parietes; whereas, if it were ovarian, it should run in front of, or to the side of the tumor.

I shall take another opportunity to direct your attention to this case; the measures employed at present have been chiefly directed to unload the bowels of their accumulated contents.

LECTURES

ON CERTAIN

# METALS & METALLIC PROPERTIES.

*Delivered at the Royal Institution,*

By Prof. Faraday, D.C.L. F.R.S. &c.

Lecture VI.

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Mercury—*Density—liquidity—fusibility compared with other metals—freezing of mercury by solid carbonic acid—water frozen by melting mercury—its vaporous state—amalgam with tin—silvering of mirrors—oxidation and deoxidation by heat—its compounds with chlorine—use of corrosive sublimate in preventing dry-rot.*

To-day we will, if you please, take up Mercury. The metal mercury is one which, now-a-days, is thoroughly well known to almost everybody, being recognized as that beautiful metallic liquid which is now before you. On both sides of this table are specimens of the ordinary ore. It does not occur abundantly in a liquid state, but when it first comes from the rock it generally appears as that body termed cinnabar (sulphuret of mercury). That beautifully coloured pigment termed vermilion, is also a combination of sulphur with mercury. I need not detain you by adverting to the process by which mercury is obtained from the ores. The principle is simply that of distillation with iron in vessels fitted for the purpose.

Any of the specimens before me will show the *lustre* of mercury. The chemical conditions of this metal are curious. It is very remarkable to observe the way in which mercury comes under ordinary metals in its affinity for chlorine and other substances. With reference to its *weight*, I must show you this experiment:—Here is a bent tube, with a long and a short arm, into which I can pour fluid; if I put mercury into the short arm, and counterpoise it by a column of water, it will give you an idea, by the relative heights of the columns, of the great weight of the former. I can, by putting a long column of water upon mercury, press down the mercury slightly; a fact which shows that mercury, in relation to water, is a very heavy liquid. In fact, mercury is 13½ times the weight of water, and before the close of the lecture I will refer to some of the uses of this metal which are dependent upon its great specific gravity.

Mercury, and I may say generally all the metals, when they are melted, are really remarkable for their extreme fluidity. We lately applied heat to iron wire; it became softened, and fell down by its own weight at the part at which it was heated. Such is the case with platinum and lead; but above a certain temperature once obtained in iron and other metals, they will acquire a degree of fluidity which is truly astonishing. At lead-works they cast immense plates of lead, that are afterwards passed through rollers to be expanded into sheets. Some of the plates when cast would cover this room, and the fluidity of the metal just before casting, is as great as that of water. I shall try one or two experiments with mercury to show this kind of fluidity. A very remarkable illustration of the fluidity of mercury is produced by using porous wood, and then making the mercury penetrate through the pores. The metal will traverse these pores by a moderate pressure on the surface. If I put into action this air-pump, so as to give a little pressure to the surface of the fluid metal which I have put over an empty jar, you will see the readiness with which the particles of mercury can move as a liquid in passing through the finest pores. Owing to this property of mercury the anatomist can inject the most minute vessels of the animal tissues. Here is another experiment, which will afford a good illustration of the mobility of the particles of this metal. There is a remarkable vibration on the surface of the mercury, now casting rays of light up to the ceiling. I shall not carry you into the subject of waves, vibrations, and so forth. If I make a wave you will see the reflected undulations and the extreme liquid beauty of the metal that produces them. The effects are dependent on the bath before you, the surface of which is now reflecting a strong light. I might show you many variations of this experiment, all dependent on the liquidity of the metal. What I have done with this fluid metal at a common temperature, can be done with lead, gold, and silver, at higher temperatures.

I must now take you to the special *fusibility* of mercury. Some metals, in order to render them fluid, require but a moderate heat; iron and other metals, however, require a powerful furnace to melt them but I will give you the general result of these experiments in eight or nine metals as to the temperature required to melt them. Though three or four soften first, almost the whole melt at once. The change which takes place consists only in the parts having obtained a perfect facility of moving over each other, but they have not entirely lost their attraction one for another. According to some philosophers there is in this state simply a destruction of polarity, which prevents them from turning on their own axis, while the attraction of particle for particle is as great as in the solid mass. I think they are right. The temperature at which this mobility of particles (liquefaction) takes place is set down in the following table,

in which I have given the indications obtained by a pyrometer on different metals:—cast-iron, 2786°; gold, 2016°; platinum, 2380°; copper, 1996°; tin, 442°; lead, 612°; mercury—39°; zinc, 773°; silver, 1783°; water, 32°. Thus mercury melts at 39° below the zero of Fahrenheit, or 60° or 61° below the temperature of a freezing mixture of ice and water; whereas gold requires about 2000° by the best comparison we can make with the means that Professor Daniel used. Platinum sustains the temperature here set down without melting; we cannot at present tell how much higher temperature it will bear.

Ten years ago I gave a course of lectures on the ordinary metals, and then, for the first time, I froze mercury in this room. Some will remember the pains we then took, but since that time the progress of our knowledge in the condensation of gases has given us the power of doing it much more easily and speedily. I must not enter into the philosophy of the process; but we have in this great vessel (an iron condenser) a large quantity of liquefied carbonic acid, and my object is to convert a portion of the liquid acid into a solid body. This will be done by means of the apparatus behind me. The process for freezing mercury consists in the rapid evaporation of a body exceedingly volatile, like carbonic acid. The liquefied carbonic acid will first freeze itself, and then, by bringing it in contact with mercury and a little ether, it will freeze that metal. By this apparatus we can obtain a degree of evaporation that will bring down the temperature to 100 degrees below zero. Here is the carbonic acid which I have now frozen, and it is very cold. I must take care of it, by insulating it in the midst of non-conducting substances. This is *solid carbonic acid*, and we will proceed to make our experiment with mercury. This, in fact, is snow; it has frozen itself simply by evaporation. This must be regarded as a most beautiful discovery. If I had time I could astonish you by the account of the properties of this remarkable substance, and what it enables us to accomplish; but from this I must refrain. By the use of it we can obtain any degree of cold. This is a kind of ice, the ice of carbonic acid, and being put into a vessel, if I put a little mercury into that carbonic acid I shall not freeze it. Here we have a little mercury and a little carbonic acid; if I mix them together, stir them, and bring them into contact, the mercury still remains liquid. This seems, at first, anomalous, when I state that solid carbonic acid is a very cold substance; but the reason is, being a highly volatile substance, it does not come in contact with the mercury, it only lies upon it, separated by an atmosphere of the gas. Ether has the power of wetting carbonic acid without being frozen by it. If I take this mercury away for a moment, and put a little ether into that basin containing carbonic acid, you see that effervesces or boils. If I put a candle there is scarcely anything that can burn. It is carbonic acid boiling. I cannot light the vapour of ether, for I put it out by the vapour of the carbonic acid evolved with the ether. Here is mercury, and on pouring it into the mixture of carbonic acid and ether, it immediately assumes a solid form. The trouble we had in the former case is now altogether gone. This solidified body (frozen mercury) looks like zinc; it loses, by solidification, a great deal in its colour. I can cut it, and it has more the character of lead than mercury. It is necessary to hold it with wooden tongs; it is rather flexible; it gives a good sharp point by cutting with a penknife. I may bend it, and of course I can soon melt it. In this mode we obtain mercury in the solid state. I might show you many variations of this experiment. I have a medallion mould here of the portrait of Mr. Fuller, who liberally endowed this Institution; and I have no doubt that if I pour mercury on it, and cover the metal with solid carbonic acid and ether, I shall be able to freeze the mercury, and make a medal of our patron in quicksilver. It will not do to touch the frozen mercury with the fingers, for it is so very cold that it destroys the living parts immediately. It is a wonderful thing to use this substance for such experiments as these. I am now working in a warm room, in the midst of summer, with a substance at a temperature of 100° below zero, with everything around me giving out heat like a furnace, comparatively speaking, to the substances with which I am dealing. Here is Mr. Fuller's face now well cast in solid quicksilver, and if I return it to the mixture I may be able to keep it until after the lecture.

Another experiment, and then I will finish with these illustrations. Let us compare mercury with cold water, that you may have a notion of the low temperature here brought out. If I touch ice it is a very hot body compared with the mercury in this frozen state. I will show the change that occurs in comparing ice with metals, and using a lump for that purpose. I will make a bath again, and if I then freeze a portion of mercury in a lump, and after that put it into iced cold water, you will have, perhaps, a better experiment as regards the power of an extremely low temperature than any other which I can give you. The iced cold water at 32° is a real furnace to the frozen mercury; when the frozen metal is plunged into it the mercury melts by the great heat of the iced cold water, and therefore you have a point by which you can compare the temperature of the two. When the mercury is fairly frozen and put into a jar of iced water, the mercury melts, and the

melting mercury actually freezes the water around it. I take iced cold water, merely to save your time. Here is a large bit of mercury, and if you watch the water you will see how beautifully the mercury will go into a fluid state, and the water take on a solid state. Here is the mercury now running down in a fine silver shower through a tube of ice formed around it. There are beautiful tubes of ice, which act as conducting tubes to the cold mercury. You observe how the mercury is surrounded by the ice, and how the fluid mercury is running to the bottom: while the water through which the liquefied mercury has fallen has actually become ice!

We must not dilate upon this curious property of mercury, although it be very tempting, for we have other points equally interesting with reference to the metal and the effect of heat upon it.

If I take a piece of solid mercury, beginning as it were at one end, and allow it to become warm, it melts at 39° below zero. If we go on applying to it a higher and higher temperature, after a certain time the liquid metal, from a general law of almost all bodies, ceases to become hotter, changes its state, and begins to boil. The heated mercury is now boiling just as well as water at 212°, showing the great mobility and volatility of its particles. The point which I wish to impress upon your attention is, that such bodies as these specimens before you become vapour. Other metals can become vapours so transparent as to have no analogy to the bodies from which they were derived. This large mass of zinc is derived from distillation; as the zinc is melted it boils, and the zinc falls over into water. Distillation is here going on in a like manner with mercury, and there is a clear, transparent, pure metallic vapour passing over and becoming condensed.

It is curious to see such dense and opaque metals as lead and zinc becoming transparent gases by heat. Some metals have coloured vapours; thus, potassium gives off a beautiful green vapour. Mercury, and all other metals, when they become vapour lose their metallic properties, and as regards heat and electricity, they become non-conductors. We have reason to believe that mercury, like ether and alcohol, can be raised into such a state that it will pass from a liquid condition into vapour, and the moment the vapour rises, the opacity of the metallic mercury seems to disappear, and it becomes transparent.

On this *volatility* of metals depend two or three other curious conditions. I had not time last week to show the combustion of iron; and, therefore, I shall fall back upon that to illustrate the volatility of some metals, and the fixedness of others. At particular temperatures, we are pretty nearly sure that all metals are volatile. I have made silver volatile. I hope to show you the extreme and rapid combustion of iron at a common temperature, and the distinction of this metal from others in respect to this property. I believe that iron will take fire and burn at common temperatures, as lead will do. I have in one of these tubes a mixture of lead, and in the other of iron. They have been submitted to a process that has left only the minutest particles of the respective metals. Lead passes into a state of fluidity while burning, and it is consumed with flame; but the iron at a burning temperature will produce no flame, merely scintillations, and it forms a fixed oxide.

By the experiment I am now performing you see the difference between the combustibility of iron and lead; the lead has burnt with a powerful flame, but iron burns in a remarkably different manner. It sparkles, because it is not volatile under the same temperature as lead, and therefore it does not take that form of vapour.

We shall next pass to some facts connected with *alloys*. Mercury gives us an opportunity to observe alloys under a new, and to us an important character. Mercury will alloy with copper and tin, as copper and tin will with each other; and thus we get metalic compounds called alloys.

I must take one illustration, because of its beauty, and the many points it brings forth with regard to the nature of alloys generally, and particularly that which is so useful in the silvering of mirrors. Here is a piece of what is termed silvered glass; there is upon the back what is commonly called silver, but what is in reality an alloy, or amalgam of mercury and tin; and my object is to produce on the clean glass plate this kind of alloy, in order to show the steps by which it is silvered; while at the same time I shall point out that it depends upon a beautiful chemical combination of metal with metal. On putting water into a glass, and adding to it sugar or salt, the solid is dissolved by the liquid, and you obtain a mixture very often indefinite in its proportions. But by another procedure with mercury, we can obtain a very definite alloy. You will see how readily and easily, by putting mercury on this tin foil, I can proceed to alloy the one with the other, by merely rubbing them with a flannel, and how soon the two unite. If I do this carefully, especially in one direction, I may proceed without destroying the tin-foil to make the upper surface of the plate beautifully bright—a mercurial mirror. At last we shall actually cover this plate of metal with mercury in excess, and cause this surface to reflect like that of the mirror which we are about to make. The alloy or amalgam, being a

definite compound, the mercury does not dissolve the whole of the tin as water dissolves the whole of the sugar, but only a certain and definite quantity. Here is the whole surface of the tin now covered by the quicksilver, and we can further cover it to a still greater extent with mercury, which is easily passed through a sieve. By this process we may observe the manner in which it fills every hole. It is kept out at the edges by its adhesion to the tin, and does not run from the foil. The manufacturer now proceeds to put on still more mercury, and he takes far more care with regard to the cleaning, until he has got a level of mercury of nearly the eighth of an inch above the surface of the tin-foil. I shall not detain you by doing more than is enough to show the process by which he gets a beautiful clean surface on the plate. If I take the tool which he employs, and very carefully go over the liquid metal, I can take off a great deal of film. He takes a few strips of glass, and places them at the side, so as to prevent the mercury passing off, and thus he imprisons it. He takes care that the mercury does not get under the glass, then he lays paper at the edge of the mercury, or a piece of clean cloth, so as to cover just the edge of the foil, and the plate is now passed over it. Care is taken to remove every particle of dirt that was on the surface, and the plate is now kept in its position by heavy weights. That being done he wants to get away the excess of mercury from the plate, and leave only in contact with the glass, the fixed and definite alloy beneath. In order to do this he tilts carefully. I may now collect the surplus mercury, which carries away little or no tin; it runs into a trough in front of the table. After this is done he takes up the plate, and finds, at the back, this beautiful substance, consisting of a definite alloy of tin and mercury, so combined, that if you scrape it off it is a hard and brittle solid. In removing this plate, as I am now doing, you see what a beautiful alloy is left adhering to it; there is the right proportion of tin and mercury, and the rest passes into a trough, or resorvoir. There was in this experiment a great excess of mercury with the tin; but the tin will take only that amount of mercury which will form a definite compound, and when the plate is placed edge-ways all the excess will run off. I have no doubt that you have occasionally seen at the corners of the frames of mirrors a little mercury oozing out. This is merely the excess of that metal which refuses to combine with the alloy, and therefore runs off spontaneously. It is only the excess that remains fluid, the compound itself is solid and crystalline. The phenomenon is very striking, and illustrates the beauty of alloys. I can show you another process of silvering glass; but for whatever process intended, the ordinary mirrors are most beautiful; and indeed, mirrors must be beautiful to surpass the plates of glass that are now prepared in this country.

Let me turn for a moment to the *chemical properties* of mercury. Mercury is a very striking substance with regard to its chemical affinities. In the experiment that you saw in boiling this metal over a lamp, you perceived that it was easily distilled. This would seem to common observation to be the whole of the effect produced; but we will leave it boiling with the retort turned in another direction, so that the mercury which went to the neck shall fall back to the body, and being kept at a boiling temperature in contact with the air for a considerable time, and month after month, it attracts oxygen, not rapidly like iron, lead, tin, or ordinary metals, but slowly, and this forms a curious red substance which is called per-oxide of mercury. Here you see various specimens of it. In this we have a compound of mercury with oxygen. The strange effect is, that if we take this body (per-oxide of mercury), and heat it to a still higher temperature, it again gives off its oxygen, and metallic mercury is distilled over, so that without reference to oxygen being present, mercury which takes this element from the air at one temperature and under certain conditions gives it off at another temperature, and under other conditions. Here we have a jar filled with this oxide of mercury, which at one moment is formed by the metal attracting oxygen, while at another it is decomposed and rejects oxygen, thus giving us a parodoxical condition of the same substance. We cannot conceive that the mere affinities can do this, unless some other physical conditions come into play. This experiment is the one by which Dr. Priestly first discovered oxygen.

I should like to take you to another experiment, because it stands in contrast with that where oxygen is employed; I mean where chlorine is combined, because it gives rise to a substance very important—it is calomel. Here is mercury in a retort, and if I expose it not to oxygen but to chlorine, the affinities are different. Mercury, which has a weak affinity for oxygen, has a strong affinity for chlorine, and the first time they come in contact they will unite to form a definite compound. The combination is attended with the production of a beautiful flame; the metal does not burn brightly, because the more volatile the solid body is, the less bright is its combustion. When mercury is placed in combination with a larger proportion o chlorine it forms a compound of which w have a specimen under this glass. The first calomel, and the second corrosive sublimate both are compounds of mercury with chlorine. I will refer you to the following tab

as giving the equivalent numbers in which metals combine with oxygen and chlorine :—

| | |
|---|---|
| Gold | 200 |
| Platina | 99 |
| Copper | 32 |
| Tin | 58 |
| Lead | 104 |
| Iron | 28 |
| Mercury | 200 |
| Zinc | 32 |
| Silver | 108 |

You observe the beautiful manner in which the compound of chlorine and mercury burns. The moment it has done burning, the mercury disappears; and here is only a mass of tarnish remaining.

I need not expatiate on the uses of corrosive sublimate and calomel; they are very well known to you. There is one property, however, of mercury which has received a good deal of attention. It has been known for a length of time that corrosive sublimate is a body which prevents decay. Although we know of many means of preventing decay, especially dry-rot, until corrosive sublimate had the honour of destroying the prejudices which existed in the highest quarters against the possibility of preventing dry-rot, no attempt was made to effect it. Here is a piece of beef-steak which has been immersed in a solution of corrosive sublimate four or five weeks, and although it is not fit to eat because it is poisonous, yet it is beautifully preserved, and perfectly sweet, and will remain so for any period of time. It will dry and become solid, yet not undergo decay. In this vessel, I have a preparation of the most delicate anatomical structures, that have been preserved in a solution to which sublimate has been added. Here is a nautilus which has been thus preserved. It has been kept in a natural state as far as its structure is concerned. By means of sublimate also dry-rot can be prevented, and wood is Kyanized, or dealt with in other ways. There are excellent modes of using the salts of many of the metals to prevent decay in organic matter.

There is one other substance belonging to mercury which I shall introduce, that is, its compound with iodine. Speaking of its combination with oxygen, chlorine, and iodine, I may say all have their uses, and are beautiful. I could exhibit the production of the compound of mercury with iodine by heating them, but it will be better to pour a solution containing iodine (iodide of potassium), into a solution of corrosive sublimate, and thus form this compound as a precipitate. It then assumes a rich scalet hue, and forms a pigment well known in the arts, but rather a dangerous one, because the mercury is easily displaced by iron and other metals; but it is useful in a condition where it is so sealed by varnish that it cannot be got at by other bodies.

It is curious to observe this compound change from a bright red to a yellow colour, by merely heating it; and then if you take the yellow substance and rub it, it goes back to red, and if you even touch the yellow it re-acquires its scarlet colour. But it is impossible to enter further into this subject.

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### MECHANICAL CONTRIVANCES IN CASES OF SPINAL DEFORMITY.

We are told that it is possible to support the weight of the body from the spine by machinery, and accordingly a great variety of steel apparatus has been contrived. If you pass through the villages in England, you will be astonished at the number of those miserable beings who have been submitted to these machines: as the coach rolls through the town, they all run to the windows to see it, and they really look like wretches in gibbets rather than what they are. The truth is, that for one individual that is screwed into these machines, who has disease of the spine, fifty at least have no such thing: all I can say from my own experience is, that I have tried the most improved ones, and I do not think a patient can bear the pressure which the instrument should make on some part of his person, to give the spine the necessary support, and that not one out of ten will get any relief from such things.—*Prof. Colles' Lectures.*

[Since the professor made this remark, the apparatuses to which he alludes have been rendered less hideous than they formerly were, and are, in some instances, more ingeniously adapted to the use for which they are intended; but we are certain that the spirit of his observation still holds good. —Ed. Gaz.]

### HYDROPATHY IN BRITTANY.

There are fountains here into which if a child's shirt or shift be thrown and it sinks, the child will die within the year; if it should swim, it is then put wet on the child, and is a charm against all kinds of diseases. The Bréton women dip their children into certain wells or springs, to render them inaccessible to pain; and in the district of Quimperlé there is a fountain called Krignac: to drink three nights successively of this at midnight is considered an infallible cure for an intermittent fever; or, if it should not succeed, it is a sure sign that the patient's time is come, and he has nothing to do but quietly wait the stroke of death.

## ON PARACENTESIS THORACIS.

*With Cases,*

By H. M. Hughes, M.D.
Assistant Physician to Guy's Hospital.

[Continued from p. 286.]

1. *Cases in which paracentesis was performed with the view of contributing to the cure of the complaint.*

The cases which fall under this class may, I think, be either acute or chronic. To the first class belong those cases in which rapid acute effusion, threatening life, occurs in the course of a few hours, and in which, though other remedies might be available if capable of being fairly applied, we really have no time to give them a fair trial. To the second class belong those cases in which other remedies have been fairly tried without effect, in which the effusion is still increasing, and the breathing becoming more and more embarrassed; and those in which it is believed the prolonged action of mercury and other remedies upon the system will prove injurious, or in which it is surmised, from the experience of other similar cases, that mercury will have no effect, or at any rate no beneficial effect.

I have no fresh examples of the first class of cases to offer at the present time, and I am therefore compelled to refer the reader to Case No. II. in the former paper as an illustration—and a very striking one it was—of this form of the complaint. I saw that man a few weeks ago. It is now four years since the operation was performed. He remains perfectly well, is stout and strong, and his chest is as round and as well formed as ever it was.

Of the second class of cases examples will be seen among the following.

Case I.—*Pleuritic effusion following the disappearance of scrofulous glands—paracentesis—relief—mercury—pleuro-pneumonia of the other side—loss of power—alteration of the effusion—gradual wasting—death—inspection.*

William E. aged 26, admitted into the hospital under my care June 25, 1845. He had for ten weeks been an out-patient for great enlargement of the cervical glands on both sides of the neck, which had been very greatly reduced, and had almost entirely disappeared under the internal administration of iodine, and the external employment of hydrochlorate of ammonia poultices. He said he was a hawker, but it was subsequently ascertained that he had led a very dissolute life, and was in consequence not noticed by his friends, who were respectable. On two or three of his later visits as an out-patient, he had complained a little, and incidentally, of pain in his left side, but he had no febrile excitement, no difficulty of breathing, and in fact, excepting pain, none of the general symptoms of pleurisy. His complaint was therefore at first little regarded, and was supposed to arise from cardialgia and dyspepsia. Two weeks before his admission, however, as the complaint of pain in the side was repeated, he was directed to take off his clothes for the purpose of enabling me to examine the seat of pain. It was then found that he had the ordinary physical signs of a moderate amount of pleuritic effusion. He was ordered to apply a blister, and to take Iodide of Potassium, and Liq. Potass, in a bitter infusion. Mercury, it was considered desirable, with his scrofulous constitution, to dispense with if possible, particularly while he remained an out-patient. The effusion, however, increased instead of being diminished by the means employed, and he was therefore admitted into the hospital.

His face was thin, pale, and his complexion sallow; the hair long, lank, and black; the tongue was clean, pale, and moist; the skin cool. He had, for two weeks previously, been occasionally affected with a slight cough, with a trifling mucous expectoration. The respiration was hurried, in number 34; the pulse 108, soft and feeble. He lay most easily upon his back. The appetite was tolerably good, and the bowels were open.

*Physical signs.*—The left side was dull upon percussion before and behind throughout its entire extent. It was more rounded, and the intercostal spaces were more nearly upon a level with the ribs than those of the right side. The left ribs were almost motionless during inspiration. The heart was felt only on the right side of the

sternum, and was most distinctly heard over the lower part of that bone. The respiratory murmur was inaudible, excepting below the clavicle, where it was rough and indistinct; the breathing was tubular in the interscapular region, *but the voice was clear, distinct, and shrill, in every part of the side.* Tactile vibration was absent. The right side, excepting from the encroachment of the heart, appeared to be healthy. Ordered—

Pil. Hydrarg. gr. iv.: Opii gr. ¼ quaque nocte. Potassi Iodidi, gr. ij.; Liq. Potass. ℥xv. ex. Inf. Gent. c. ter die.

26th.—The next day the exploring needle was introduced by Mr. Cock, and the presence of an abundance of fluid having been thereby certified, the small trochar was afterwards used, and seventy-two ounces of clear yellow fluid, like small-beer, sp. gr. 1018, were withdrawn in a full stream, without the slightest inconvenience or the ingress of a single bubble of air. A piece of lint and plaster, and a flannel bandage, were afterwards applied, and he was desired to keep his bed, and not to talk.

27th.—Had passed a good night; felt his breathing much relieved; respirations 30; pulse 100; heart felt neither on the right nor on the left side of the sternum, but heard behind it; tongue clean; bowels not opened.

Ordered—Pulv. Jalap. c. Cal. gr. xv., st. sum. Pergat.

30th.—Had a slight febrile affection, probably arising from cold, and a trifling increase of cough.

Ordered—Pil. Antim. Opiat. c. Cal. gr. j. hora somni hac nocte sumend.; Julep. Ammon. Acetatis c. Potass. Acetatis et Sp. Ætheris Nitric aa. ʒss. 6tâ quaque horâ sumend.

July 1st.—He had perspired rather freely, and was in every respect better. Had little or no cough; tongue clean. Sixteen ounces of fluid, precisely similar to that previously withdrawn, were evacuated without cough or the ingress of air, and the bandage applied as before.

Cont. Medicamentæ *imprimis* præscript. sed capt. pilulam nocte maneque.

5th.—Was progressing favourably in every respect.

Applicet. Emplast. Cantharid. ampl. lateri thoracis sinistro. Pergat. in usu medicament.

14th.—He had been going on well in every respect up to the 13th day after the last operation, but after sitting up he had, on this day, a sharp pain in the infra-scapular region of the right side, in which part the respiratory murmur was rather indistinctly heard. The skin was rather hot, and the bowels were confined.

Applicent. Cuc. Cruent. parti dolent. ad ʒvj.; Capt. Olei Ricini, ʒj. st. et Pil. Antim. Op. c. Cal. gr. ij. hora somni.

15th.—The pain of the side was relieved by the cupping, but only at the particular part to which the scarificator was applied. He still complained of pain of the right side, which was now dull on percussion posteriorly as high as the angle of the scapula. Tubular breathing, and œgophonic bronchophony, were audible in the *right* infra-scapular region; while fine muco-crepitating rattle was heard in the right mammary and hypochondriac regions; the skin was hot and dry; the tongue loaded, but moist; the pulse tense and sharp, 108; (Pleuro-pneumony of right side.)

Applicet. C. C. parti dolent. ad ʒvj.; Pil. Antim. Opiat. c. Cal. gr. j. 6ta quaque hora sumend. c. Haustu ex Julep. Ammon. Acetatis.

16th.—No change, general or local.

Applicet. Empl. Cantharid. lateri dextro. Cont. Pil. Rep. Mistura c. Sp. Æth. Nitric. et Vin. Antim. Potassio Tart. aa. ʒss. Illinatur nocte maneque axillis Ung. Hyd. fort. ʒj.

17th.—Felt sick; skin natural; pulse much softer; had no pain of side; the muco-crepitating rattle had decreased; no indication of the effect of mercury upon the mouth.

Pergat.

From this period the affection of the right side rapidly diminished, till very little trace of disease was left behind, and the indications of inflamed pulmonary tissue disappeared entirely; but from this time also his general symptoms excited more anxiety, and his constitutional powers began to fail. On the 18th he was troubled with diarrhœa; the medicines were therefore suspended, and astringent remedies were administered. The use of the ointment was continued.

On the 21st, the diarrhœa having ceased, and all indication of inflam-

matory affection of the right side having disappeared, the use of the Iodide of Potassium and Gentian was resumed, and Pil. Hydrarg. Pulv. Ipecac. c. aa. gr. v. were ordered to be taken at bed-time; and as he had not the slightest evidence of the peculiar action of mercury on the system, the use of the ointment was persisted in.

On the 29th, Tr. Cinchonæ c. ʒj. was added to his mixture, and he was allowed to take a mutton-chop in consequence of obviously increasing debility.

Aug. 15th.—He had still no indication of the action of mercury on the system, and though he had taken nourishment freely, he continued to get weaker. His breathing had latterly been gradually becoming more difficult; it was therefore thought desirable to draw off a small quantity of the fluid. The trochar was accordingly introduced, and ℥xiv. of fluid withdrawn without inconvenience, and to his *very great* relief. *The fluid was now nearly pure pus.*

Ordered—Porter and wine, with chops as before.

20th.—He was this day attacked with violent pain of the abdomen, together with sickness and vomiting. The bowels were rather confined; the abdomen was rather tense and tympanitic, and tender to the touch; the countenance was depressed and somewhat anxious, and his restlessness was excessive. These symptoms were not relieved by opium with calomel, or by stimulants; but on the 22d were entirely removed, at least temporarily, by the application of a blister to the pit of stomach, and by acting gently upon the bowels by castor-oil. From this time, however, his life was a continued succession of miseries. He was frequently troubled with, and much exhausted by, vomiting and retching, pain of the stomach, alternate constipation and relaxation of the bowels, and soreness of the skin from pressure upon his slightly-protected bones. He was again greatly relieved for a time by the withdrawal of ℥xviij. of pus from the pleura; but he continued to sink, and died, very greatly emaciated, on August 28th, about nine weeks after his admission.

*Inspection, 30 hours after death.*

The head was not opened. *Chest:* The right lung was very generally connected with the costal pleura by old, soft, jelly-like, albuminous matter, below which (but below which only) the serous membrane was thickly covered with miliary tubercles. At the part invested by this recently inflamed portion of membrane, the lung was somewhat firm, and rather more loaded with blood than at other parts, but it was otherwise quite healthy in appearance and structure, and *quite destitute of tubercles.* The left pleura contained three pints of the same sort of thick puruloid fluid as had been recently withdrawn from the cavity, and was, except at, and rather below, the apex, where it was firmly adherent, covered with a thick, soft, and opaque albuminous layer. Below this layer (as in the lower part of that on the right side) was a thick sprinkling of miliary tubercles, which appeared to be strictly confined to the serous membrane. The left lung was greatly compressed, but was quite free from pneumonic consolidation, from tubercles, or deposit of any other kind. When the inflammatory coating was removed from the surface, it was capable of being inflated without difficulty. The heart and pericardium were healthy.

*Abdomen:* The enlarged but flaccid stomach covered nearly the whole of the intestines. It contained a considerable quantity of fluid; probably taken only a short time before death. The mucous membrane was soft, thickened, and in patches ecchymosed, but was free from ulceration. There were traces of old peritonitis in the firm membranous adhesions which existed in some parts; while a smoky dark colour was observed on the surface of other parts of the serous membrane. Some of the mesenteric glands were slightly enlarged. The small intestines were considerably loaded with pultaceous fæces, but afforded no evidence of disease. The liver and kidneys were tolerably healthy.

This case presents many features of great interest, independently of those on account of which it is here related. Though any detailed consideration of these questions would be perhaps out of place in this paper, it may be excusable even here briefly to refer to them. Though, then, it may be a problem difficult to solve, it is one concerning

which it is most important, in a practical point of view, to arrive at a satisfactory conclusion; it is, in some respects, a vitally interesting question to decide whether the removal by absorption of the scrofulous matter in the glands of the neck, had any, and, if any, what influence in the production of the pleurisy from which the patient afterwards suffered. In reference to the condition of the patient after death, it may be perhaps safely asserted that, in the chest at least, there was no disease the origin of which might not have had a date posterior to the partial disappearance of the scrofulous glands. It is not intended to be suggested that the scrofulous matter might have been taken up from the neck, and deposited on the pleura; but simply that the removal of disease in one part of the body of a scrofulous subject might not improbably have contributed to its production, or to its increased activity, in another part; just as the removal of a scrofulous joint is believed to hasten the progress of, or to bring into activity, previously dormant scrofulous disease of the lung.

It is also worthy of remark that, though the patient was from the first considered an unfavourable subject for the action of mercury, and though the remedy was therefore cautiously administered, and carefully watched, he took it in one form or another, either by inunction or by the mouth, for a period of nearly two months without any of its specific effects being produced upon the system. The medicine appeared to have not the slightest control over the effusion in the left pleura. It may be perhaps doubted if the remedy had any material influence upon the solid effusion in the right pleura, as the plastic matter found therein after death was abundant, thick, and soft; while the pneumonia—which yielded readily, and even rapidly, under, as it may be presumed, the nauseating and depressing effects of the antimony administered—left scarcely a trace behind. It was, I think, quite evident that the mercury did the patient no good, either constitutionally or locally, and that though the operation of paracentesis did not cure, or contribute to the cure of the complaint, this was certainly not one of those cases which are curable by mercury.

It might, again, be an interesting question, if possible, to decide whether the tubercles found after death upon the two pleuræ were the exciting cause of the inflammation of the membrane, or whether the inflammation of the membrane led to the deposition of the tubercles. The boundaries of one and the other were precisely the same. No tubercles were discovered, either in other parts of the pleura, in the pericardium, or in the peritoneum, and none, after a somewhat minute examination, could be discovered in the lungs. The case, therefore, opens the still debatable point whether tubercles in the serous membranes are the cause of the products of inflammation; and it presents another not *very* rarely recurring exception to the opinion derived from the examinations of the indefatigable Louis, that when, in a person above 15, tubercles are found in any part of the body, they are also found, and in a more advanced stage, in the lungs.

In reference to the particular question for which the case is here mentioned, viz. that of paracentesis, it may be doubted whether it should be placed among the first or the second class of cases, as the individual was most assuredly a very unfavourable subject for any plan of treatment. Evidently scrofulous, and pallid and emaciated from previous dissolute habits and debauchery, he presented a far from desirable subject to work upon in any mode. Yet it may be observed, that the progress of the patient up to the secondary and perfectly independent attack of pleuro-peripneumony of the right side was perfectly satisfactory; but that after this, though the pneumonia was completely and easily subdued by the remedies employed, the entire complexion of his complaint was changed. Before that attack our hopes of his ultimate recovery were sanguine—the prognosis was good; subsequently to that attack we could only "hope against hope"—the prognosis became extremely unfavourable.

Connected with this obvious change in the aspect of his complaint was the entire and very remarkable alteration in the physical properties of the fluid withdrawn from the pleura. Before this attack the fluid was clear, but dark-coloured serum; after it the fluid presented all the appearances of nearly

pure pus. Considering the presence of tubercles upon the pleura, it may be doubted whether the disease would have been subdued, and whether adhesion of the membrane could have accomplished a cure if the attack of pneumonia had not occurred; but that attack appeared effectively to decide the question in the negative.

Upon reconsideration of all the circumstances of the case, I cannot conceive that the paracentesis, though it did not effect or contribute to a *cure*, was in any way, or in the slightest degree injurious. It was urgently required, in the first instance, as was proved by the *spontaneous flow* of seventy-two ounces of fluid; and it afforded relief on the other occasions upon which it was practised. So much cannot be stated, and *perhaps not believed*, in reference to the administration of the mercury.

CASE II.—*Pleuritic effusion; Paracentesis; slight ptyalism; Cure. (Reported by Mr. Burleigh).*

J. H., aged 36, of light complexion, residing at Camberwell, admitted into Guy's Hospital, under the care of Dr. Hughes, October 16, 1844. His father is asthmatic, and he had one sister who died of consumption, but the other members of his family are healthy. Two months ago, without any exposure to cold or wet, and without any other assignable cause, he was attacked with pain of the left side. It continued for three weeks without any particular attention being directed to it, and without any remedial means being adopted for its removal. He then applied for medical advice, by the adoption of which the pain was removed; though a barking cough was left behind, which together with nocturnal perspiration, loss of appetite, and progressive emaciation, had continued up to this time. The skin of the chest, upon his admission, was hot and dry; the tongue was furred; the bowels open; the pulse, 98, small and feeble. He was able to lie upon either side without inconvenience. The left side of the chest appeared to be distorted, and to bulge a little, though by admeasurement both sides were found to be equal in size. Percussion on the right side elicited everywhere a natural sound, and also upon the left side above the nipple; but below this point anteriorly, and below the scapula posteriorly, the dulness upon percussion was very decided. Over the entire right and over the upper part of the left side the respiratory murmur was audible; but over the dull portion of the left side no respiration of any kind could be heard. There was no vocal fremitus in the part diseased. The heart's sounds were natural, but the organ was pushed upwards, and the impulse was felt upon the right of the steruum. Ordered—

Pil. Hydrarg. gr. iv.; Opii, gr. ¼; ft. Pil. quâque nocte sumend. Liq. Potassæ ℥x. Inf. Gentianæ c. ʒj. ter die.

Oct. 18th—After exploration and a confirmation of the diagnosis of pleuritic effusion, the small trochar was introduced by Mr. Cock, about an inch below and rather anterior to the inferior angle of the scapula, between the seventh and eighth ribs. Nineteen ounces of fluid were withdrawn. The operation was scarcely felt, and the pulse was not in the least accelerated thereby.

Pergat.

21st.—Is much improved; had no pain since the operation; breathing relieved; perspiration had nearly disappeared. The left side of the chest had, by admeasurement, diminished an inch and a quarter in size. The natural resonance of the chest had returned anteriorly, but laterally and posteriorly percussion still elicited a dull sound. Over the entire surface affected, pleuritic rubbing could now be heard, and felt by the hand, together with which some respiratory murmur was distinctly audible. The heart had returned to its natural situation and the impulse was now distinctly felt upon the left of the sternum. The gums were slightly affected by the mercury.

Omitt. Pil., Rep. Mist.

24th.—Resonance on percussion now everywhere natural; pleuritic rubbing general in the affected parts, but respiratory murmur audible throughout.

28th.—The chest had diminished 3¼ inches in circumference since his admission. Pleuritic rubbing and respiratory murmur were still audible in conjunction in the affected parts. His appetite and general health were good; he had no cough and no perspiration; indeed he made, and appeared to have, no complaint.—Presented.

January 23rd, 1845.—Three months

after his dismissal, he called upon Dr. Hughes concerning his child. He was stout and in good health; and upon examination no traces of his former or of any other disease could be discovered in his chest.

To the very probable question why, with the evidence of so comparatively small an amount of fluid, I advised the operation of paracentesis in this case, I may observe, that from the fact of the fluid having in all probability been already in the pleura for a period of nearly two months, I feared that the lung might become, if it were not already, bound down by albuminous coating; that it might be thereby rendered incapable of future expansion. From the person's appearance, moreover, and from some of his constitutional symptoms, I also feared that he might be the subject of tubercular disease, if he had not already tubercles in the lungs. Under such circumstances, I felt that the really trifling operation would be vastly less injurious to him than the prolonged action of mercury upon the system; though from the subsequent progress of the case, from the facility with which the small doses of mercury acted upon him, from the rapid restoration of the individual, and from the apparently perfect cure of his disease, I afterwards thought that I was mistaken as to the presence of tubercles in the lungs. I had no cause whatever to regret the course I had thought it right to adopt, as I have rarely if ever seen a chest which contained a considerable amount of inflammatory effusion more rapidly restored. That the operation, in this case, was not absolutely *necessary*, I am willing to admit, but that it was really advantageous, and that it materially contributed to the speedy cure of the disease, I have, judging from the progress of other cases, good reason to believe: if the result be brought forward in support of the one proposition, it may be advanced with equal justice in support of the other.

[To be continued.]

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ON THE

## CAUSES, NATURE, AND TREATMENT OF THE LATE EPIDEMIC FEVER IN ROTHERHAM.

By Edward James Shearman, M.D.

*Read at the Sheffield Medical Society, January* 22, 1846.

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On witnessing epidemics in different localities, every one must have noticed some difference either in their symptoms, duration, or mortality; and it cannot be considered as uselessly spent time to endeavour to account for the causes of such peculiarities. For this reason I venture to bring before the notice of the Society the following observations on the apparent causes, symptoms, duration, and treatment of the fever which has been prevailing in this district since the month of March 1845.

Rotherham had been a very healthy town for a great number of years, until it was visited by the epidemic cholera in 1832. It is situated on the declivity of two hills, east and west, with plenty of descent for drainage into the river, which runs close to the town in a northerly and easterly direction.

Until the year 1827, there were large springs of water constantly running in several streets, which amply supplied the inhabitants; but these were taken away by the Water Company; and latterly, the supply of water allowed by this Company has been very scanty; so that the lower class of the inhabitants have been deprived of sufficient water to clean their premises. The consequence has been, an accumulation of filth in many of the dirty alleys leading out of the main streets, which used to be washed away when water was plentiful.

The common sewers of the town are very imperfect, being made small and with flat bottoms; so that they very frequently become clogged up. And I am informed that there are no drains at all leading from the narrow alleys, where the lowest grade of the inhabitants are congregated together in the closest manner in houses without ventilation. And it was in these places that the cholera broke out in 1832. Even the dwelling-houses, which are built around the shambles, in the centre

of the town, do not possess one privy amongst them; and they are obliged to secrete and preserve their excretions in their badly-ventilated houses, and throw such refuse into the street twice a week, to be removed by the scavenger.

For several months in the spring and summer of last year, some of the common sewers were open in the town for the purpose of being repaired or enlarged: this was done slowly, owing to few workmen being employed at once. Many of the large gas-pipes in the streets were broken during this process; and there was a constant exhalation of carbonic acid, carburetted and sulphuretted hydrogen gases, issuing from these open pipes and sewers, before, and during the time, the fever was raging. As this process was going on in one street, I have often been compelled to avoid inspiring at the time I passed it; the atmosphere was so suffocating.

Added to all this, the church-yard, measuring only 4386 square yards, is situated in the centre of the town; and has been the only cemetery for the interment of the whole parish, amounting to 13,000 inhabitants, until about three years ago, when a new cemetery was laid out about a mile from Rotherham, which, unfortunately, is very little used. The accumulation of dead bodies in this church-yard has been so rapid, that it is difficult to find a grave filled up to less than three feet from the surface: some of them, I have heard, are much nearer. 1,911 bodies have been interred in it the last ten years; and now it is so full, that when many graves are opened, a most noxious gas ascends, which does not require two visits to ascertain. The bodies are often exposed, half decayed; and, not unfrequently, large quantities of horribly smelling liquid is taken out of a newly-made grave, and poured down the street, destined to find its passage into a sewer, which, perchance, may be blocked up:—exhaling its horrible odour through its course, to the great annoyance and danger of the inhabitants.

In July 1841, 50 graves were opened in this churchyard in the course of two days, for the purpose of interring 50 unfortunate persons who were drowned by the overturn of a boat in the river: and, immediately afterwards, typhus fever, of a very low character, broke out all round the church-yard; and I am in some doubt whether the town has ever been free from epidemic fever since that period.

The quantity of *rain* which fell from June to September 1845 was unusually great. The *barometer* was very low; the mean height being 29 instead of 30 inches; and the mean *temperature* was 51°.9 instead of 57°. The *north and north-east winds prevailing*, the temperature of the whole month of *May* was *below the average:* but the wind turning *south-west*, the *temperature of June rose above the average of the month;* and in *July*, *August*, and *September*, it again was *much below.* The *barometer* continuing, *all this time, very low.*

All these circumstances combined, must have *materially reduced* the proper proportion of *oxygen* in the atmosphere.

That the very wet season had some share in generating and spreading this disease, can scarcely be doubted. Dr. Edward Harrison on this point says:—"The connexion between humidity and the rot in sheep, is universally admitted by experienced graziers; and since the land in the County of Lincoln has been well drained, the rot is become less prevalent." Sir John Pringle informs us:—"That persons have maintained themselves in good health, during sickly seasons, by inhabiting the upper stories of their houses: and by confining sheep on high grounds through the night, they have escaped the rot."

In the second Report of the Commissioners on the State of Large Towns, and in Chadwick's last Report of the Poor-Law Unions, it is stated:—"The *existing drains favour* rather than prevent the accumulation of refuse matter, as they are *flat at the bottom;* which, combined with a *defective supply of water*, lead of necessity to deposits; which, undergoing decomposition, give off those poisonous exhalations, *especially sulphuretted hydrogen*, which constitute one of the principal causes of fever which ravage our towns and cities." Dr. Arnott remarks, that "the immediate cause of many of the diseases which impair the bodily and mental health of the people, and bring a considerable proportion prematurely to their grave, is

*the poison of atmospheric impurity:* and it is through the *medium of the respiratory organs* that the germs of *typhoid*, as well *as intermitting and remitting fevers*, are introduced into the system." "The use of water, in a sanitory point of view, ought to include the *supply of water closets*, the *scouring of pavements*, the *cleansing of carriage ways*, and *above all, the flushing of drains and sewers.*" Sir James Clarke regards "the respiration of a deteriorated atmosphere one of the most powerful causes of tuberculous cachexia: and if an infant, born in perfect health, of the healthiest parents, be kept in close rooms, in which free ventilation and cleanliness are neglected, a few months will often suffice to produce tuberculous cachexia." I am glad to see the Bill in Parliament to remedy these evils, makes a provision for "*an ample supply of water.*"

The causes above mentioned are in operation, more or less, in every town; and as it is very clear they are influential in the production and extension of fever, we must expect to find that disease more prevalent in towns than in the country, where the effluvial gases are more at liberty to follow the bent of their nature, and diffuse themselves through the circumambient atmosphere with velocities inversely proportioned to the square roots of their densities.

Some difference of opinion having been expressed as to whether fever can arise from the *want of a sufficient quantity of oxygen in the atmosphere respired*, which I am willing to acknowledge appears to me to have been the exciting cause of the epidemic I am now describing, I beg to quote a few passages from the most celebrated writers on this subject.

Dr. Williams, in his Principles of Medicine, page 81, says: "The excretions are defective in fever; and there can be but little doubt that many of the constitutional effects of these fevers are, in great measure, due to this important element. The positively noxious properties which excrementitious matter retained in the blood is known to possess must be taken into account when we attempt to explain the states of constitutional irritation and depression, with perversion of functions, which fevers so generally present. The changes in the blood, manifest in some cases by its fluidity and by petechial appearances, may also be referred to defective elimination of effete matter." At page 232, "The lateritious sediment in the urine indicates an increased excretion of the solid constituents of the urine; for there is often an excess of urea as well as of the urates: and, comparing this with the scanty secretion of urine during the febrile excitement, and the decay of tissues which is always taking place, we can scarcely avoid the conclusion that these excrementitious matters had been accumulating in the blood, from the impaired function of the kidneys during the fever; and that now, as the fever subsides, and their function is restored, the accumulated matter is thrown off." At page 120, "It is supposed, by most chemists, that the urea excreted by the kidneys is chiefly derived from the transformation or decay of the textures of the body, most of their carbonaceous matter being abstracted by the affinity of the oxygen of the blood, and carried off by the lungs in the form of carbonic acid gas."

On referring to Professor Alison's Outlines of Pathology, *impure air* is particularly mentioned as a cause of fever, *producing a general depression of vital action.* At page 485, he says: "We have good evidence that all these idiopathic fevers either originate from a malaria, or propagate themselves, in part at least, and in certain circumstances, by contagion." At page 506, "The malarious poison does not appear to diffuse itself readily through the air, nor to rise high above the surface emitting it, the inhabitants even of a ground-floor of a house in a malarious district being often affected in a much larger proportion than those of the upper stories. Although the heat of the sun appears to be one of the conditions of the development of the poison, yet its immediate effect on the poison that has been already evolved seems to be to dissipate and dilute it, for it is much more dangerous to visit the most malarious spots at night than at noon-day." At page 523, "Whatever be the mode at which the morbific cause in fever comes to affect the circulation, it is to *the direct action of the*

*cause*, and not to the influence of any local diseased actions, that we must ascribe the enfeebled state of the circulation, the altered state of the blood, the peculiar vitiated state of the secretions, and in a great measure also the deranged state of the nervous system." "The sedative effect on the heart is often such as to enfeeble, and sometimes nearly to suppress, the febrile reaction, as in congestive fever; that on the brain may produce fatal coma, as in nervous fever; that on the vital functions of the capillary vessels may be such, and so long continued, as to cause fatal inanition and exhaustion."

At page 141 of Billing's Principles of Medicine, he says: "From the very nature of fever, which I have described to be a disease essentially affecting the whole nervous system, it follows that the functions of the viscera must be disturbed; and though, as just pointed out, sometimes disease of one organ predominates, sometimes of another, yet *every organ* suffers more or less *congestion* in *every fever*, from the loss of nervous influence."

"In Müller's Physiology (2d Edit. Vol. 1, p. 159), it is stated, "The absorption of oxygen, and the separation of a portion of carbon (or carbonic acid), are, therefore, the causes to which arterial blood owes its property of being *the sole stimulus of living structures.* Venous blood which has not undergone this change has a *poisonous action on the organs of the body, particularly on the nervous system, and annihilates their irritability:* its action being similar to that of *carbonic acid, sulphuretted hydrogen, carburetted hydrogen*, and some other gases, by which *the arterial blood is darkened in colour.*" At page 345, "It appears that the quantity of gas contained in the blood amounts in the mean to one-tenth, and sometimes is as much as one-eighth of the volume of the blood itself; that the *oxygen* in *venous blood* equals *at most* one-fourth, and often only one-fifth, of the carbonic acid which the same blood contains; while in the *arterial blood* the *oxygen* equals at least one-third, and almost one-half of the quantity of carbonic acid."

Andral, Gavarret, Simon, and Dr. G. O. Rees, inform us, as the result of numerous experiments, that the blood in typhus fever is found to be very deficient in fibrin and albumen; it coagulates imperfectly, and often remains in a semifluid state: the clot is soft, friable, of a very dark, almost black red colour, and is very rarely covered with a buffy coat, and very soon becomes putrid; and in the latter stages the quantity of blood corpuscles and solid contents decrease remarkably rapidly. In thoroughly developed typhus, Dr. Armstrong found the blood of the temporal artery as dark as that of a vein. Dr. Stevens found the chloride of sodium in typhus blood very sensibly diminished; and Dr. Clanny found all the salts diminished.

It is well known that the atmosphere cannot be breathed by man with a larger proportion of carburetted hydrogen in it than one part in ten; and the proportion of carbonic acid gas in atmospheric air is never more than one part in a thousand; that inhalation of sulphuretted hydrogen gas would convert the peroxide of iron of the red globules of the blood (the oxygen carriers) into a black sulphuret of iron, and at once prevent the change from venous to arterial blood.

*What is malaria?* It is the emanation from decomposed and decomposing vegetable and animal matter — carburetted, sulphuretted, and phosphoretted hydrogen gases, with carbonic acid gas. The immediate effect of breathing an atmosphere charged with these gases would be—

1st, A diminished quantity of oxygen to combine with the carbon in the venous blood in the capillaries of the pulmonary artery; the blood would become loaded with carbon, and imperfect arterialization must be the consequence.

2d, The brain and nervous system would be imperfectly stimulated by arterial blood; and as the quantity of carbon increased, the arterial would be converted into venous blood, or nearly so, which would have a poisonous action on the nervous system.

3d, The blood circulating as arterial would not contain that quantity of free oxygen necessary to combine with the carbon and hydrogen of the metamorphosed tissues which it meets with in the general capillary system, and therefore they could not be removed as they are in healthy circulation.

4th—The secretions would be stopped in consequence of the deteriorated quality of the blood and loss of energy

in the nervous system; and the excrementitious matter, instead of being excreted, would be absorbed and circulated in the blood.

We are all aware that every part where blood-vessels and nerves are to be found are continually wearing away; and if the supply of oxygen, nitrogen, carbon, and hydrogen, be not constantly kept up, the individual must perish:—he first loses his fat, then his muscles, and lastly the substance of his brain—followed by deranged intellect and death—just as we see in the advanced stage of fever.

The seat of fever, then, appears to be in the capillaries; in this structure, secretion, nutrition, waste and decay, go on. As long as the *vital principle* is *greater* than the *chemical force*, health is the result. But when the *vital principle* is *deterioriated* by a *deficient supply of oxygen in respiration*, feverish action is the consequence.

The foregoing explanation may account for the cold or collapsed stage of fever very easily: which would terminate here, if the individual remained in so depraved an atmosphere as to be insufficient to supply oxygen enough to excite re-action. But it will be asked, how can the animal heat be so much increased as it is, during the continuance of fever, if there is a deficient supply of oxygen? When reaction takes place, nature makes an effort to restore the normal state of the capillaries, respiration and circulation are increased in speed; there is then a normal quantity of oxygen inhaled (if the atmosphere become pure) with every inspiration; and the respiration and circulation are doubled; consequently the animal heat is increased nearly two-fold; the red blood corpuscles, or oxygen carriers, again gradually resume their office, and remove a portion of the decayed tissue; but, in consequence of the depraved secretion, and large quantity of carbon in the blood, it requires a certain time to overcome this derangement; and this time constitutes the *period* of the continuance of fever.

I would by no means wish to insinuate that this is the only mode in which fever is generated. It is often the consequence of animal poisons introduced through the capillaries to the nervous system; and many other causes of fever are too well known and generally acknowledged to require any notice here. Besides, most epidemics become contagious, in consequence of the change which is produced in the arterial blood; which has the effect of so altering the nature of the excretions from the capillaries of the skin and mucous membrane of the bronchiæ; that the perspiration and exhaled breath become animal poisons.

A peculiarity in the breaking out of this fever last year is not unworthy of notice. It almost exclusively attacked servant girls, in the first instance, in nearly every street in the town; and most of those I attended had been very copiously dosed with strong purgative medicine, prescribed by druggists, before I was sent for, and I usually found them with a *tympanitic abdomen*. I think this may be accounted for in the following manner. The atmosphere of the town at that time was charged with carbonic acid, sulphuretted and carburetted hydrogen gases, arising from the church-yard, the open sewers, and the broken gas pipes. In the day-time the atmosphere was sufficiently warm, and the current of air enough to mix this deleterious gas with the atmospheric air. But at night, the fog from the river, added to the general dense state of the air, prevented this combination. The servant women were first exposed to this atmosphere, having to rise earlier than the rest of the inhabitants, and their employment did not lead them away from it, as that of the labouring men generally did. The supply of oxygen was deficient; the venous blood was not completely arterialized; they felt low, and unfit for work; and were dosed prodigiously by the knowing druggists, until sufficient irritation of the mucous membrane of the intestines arose; added to the loss of nervous energy from deficient oxygen; and tympanitis was the result.

Most of the cases I have witnessed began with rigor, followed by diarrhœa, vomiting or nausea, anorexia, and great listlessness. This gradually increased to prostration of strength, and when I have been called in I have generally found patients with tympanitic abdomen, epigastric tenderness, and a very quick, and often dicrotic pulse; tongue dry, and furred brown in the centre, with red edges; scanty

high coloured urine, depositing large quantities of uric acid; skin dry and very hot; sometimes great thirst, but often none; headache; often sleeplessness; conjunctiva of the eyes generally injected; and almost always some degree of bronchitis, indicated by a number of wheezing sounds of various qualities, distinctly heard through the stethoscope to proceed from a great number of minute bronchial tubes; and this has often terminated in pneumonia, when the crepitant rhonchus gradually replaced the bronchial. These symptoms have generally occupied the first fourteen days; and then a state somewhat like the effect of a narcotic poison appeared; and if no amendment has then taken place, low muttering delirium; lying on the back with jactitation and subsultus tendinum, or sleeplessness, intolerance of light, raving and screaming, with subsultus; alkaline or ammonaical urine; dark brown or black, dry and crisp or glazed tongue; sordes on the teeth; loss of power over the sphincter muscles; hiccup and death: terminating in coma, asphyxia or asthenia, as the capillaries of the head, chest, or general system, happened to be principally affected. I have only seen one case of well-marked maculæ, and two with melœna.

The disease has generally gone on from the 14th to the 21st day, or thereabouts, before any crisis has taken place; and then, either profuse perspiration, with excretion of large quantities of urate of ammonia in the urine; long continued calm sleep; copious expectoration, or sudden return of appetite, has been the harbinger of return to health. The cases towards the end of the year were not of so violent a nature, and much shorter, than those in the beginning of the epidemic.

On reading the opinions of various authors on the *treatment of fever*, I have often felt a difficulty in deciding which to trust. Some recommend scarcely any treatment; merely to watch the patient through the disease, trusting entirely to the vis medicatrix naturæ, while others almost run into the opposite extreme. Dr. Stokes, whose opinions I much value, says, "Fever is a disease which numbers amongst its victims persons chiefly in the prime of life, and during the most active and useful state of existence; fathers and mothers — persons who are the ornament and stay, or support of their families—the intellectual —the industrious—the efficient; those whose lives are the most valuable to their friends and society. There is nothing more untrue than the assertion that the treatment of fever is a matter of indifference; on the contrary, there is no disease in which diligent attention and skilful treatment are more frequently successful than in fever, nor is there any affection of equal importance in which our therapeutic means are more efficient and valuable."

Delirium, sleeplessness, stupor, convulsions, extreme subsultus, jactitation, sluggish and dilated or else extremely contracted pupils; sudden depression and collapse from pneumonia, or ulceration through the intestine; are the symptoms we have to fear after the fever has lasted some time; and the chief art of the physician consists not so much in remedying these symptoms, as in anticipating them.

I am anxious to draw the attention of the society to the diarrhœa and nausea, or vomiting, which has usually ushered in this disease; for I am of opinion, that by satisfactorily making out whether these symptoms arise from cerebral irritation or gastro-enteritis, and directing their proper treatment from the commencement, much of the safety of the patient depends. For we may have tympanitis in fever from want of nervous energy supplied by the brain, as well as from the effects of inflammation of the mucous membrane of the intestine.

Dr. Stokes remarks: "Cerebral diarrhœa and vomiting in fever set in generally at a very early period of the disease and is seldom accompanied by the red and furred tongue, the bitter taste in the mouth, the burning thirst, and the epigastric tenderness, which belong to gastro-enteric inflammation. The latter is relieved by leeching the belly, but the cerebral diarrhœa is not; gastro-enteric diarrhœa is not accompanied by such copious discharges of bile as that from cerebral irritation. When vomiting follows derangement of the cerebral circulation in ordinary cases without fever, bile is thrown up in large quantities."

The diarrhœa and tympanitis, or

what is called by some *dothinenteritis*, has been very frequent among my patients, and very perplexing in the treatment. Most of them had been purged violently with some drastic medicine before I saw them, and presented tympanitic symptoms on the *first* examination. These cases very soon took on a very low type of fever —the animal heat decreasing. But, by attending strictly to the rules above quoted, I think I have generally discovered whether the cause of the tympanitis has been in the cerebrum, or in the glands of the mucous membrane. If in the former, I have shaved the head, leeched, and applied cold evaporating lotions, and purged, followed by flying blisters; and then carefully given a combination of potassio-tartrate of antimony and tincture of opium. If in the latter, I have avoided any irritating aperient and fluid, and principally trusted to small doses of Pulv. Ipecac. Comp. with moderate doses of Hydrarg. c. Cræta, mild carminative aperients, good beef-tea, and now and then a little solid food; leeching the scrobiculus cordis, and using friction with the Linimentum Hydrargyri Compositum all over the abdomen. I have invariably found saline draughts in a state of effervescence increase the tympanitis from either cause; and very often, during the first cases of the epidemic, I feel convinced I have brought on tympanitis from allowing the use of them. By strictly attending to these rules, I have had considerable success in such cases. In two instances I have succeeded in relieving excessive and long continued tympanitis and diarrhœa by the use of acetate of lead, as recommended by Dr. Bardsley.

Bronchitis and pneumonia have been equally prevalent in this disease; some cases have had pneumonia or bronchitis, with cerebral diarrhœa and tympanitis, low muttering delirium, paralysis of sphincters, &c. &c. I have found no treatment so successful in such cases as the combination of antimony and opium recommended by Dr. Graves.

℞ Antimonii Potassio Tartratis, gr. iv.; Tincturæ Opii, ʒj.; Misturæ Comphoræ, ʒviij. M.

Of this I have given half an ounce every two, three, or four hours, as circumstances dictated; it seldom produced either vomiting or purging after the first dose; but it requires very careful watching. Such cases, when they occur amongst the poor, most generally prove fatal.

My usual practice in fever is, never to induce the specific effect of mercury on the system, unless for the cure of pneumonia or bronchitis; and in such cases, if moderate local bleeding has not the effect of very soon relieving the symptoms, I cautiously introduce mercury so as to produce slight ptyalism, with as little loss of strength as possible to the system.

It appears to me that the most successful treatment of fever always includes a sufficient supply of pure air, of nitrogen for the supply of the various tissues destroyed, and carbon and hydrogen for the supply of respiration and perspiration; and these should be exhibited in food and medicine, even against the patient's will. On this principle, carbonate of ammonia, wine, porter, and beef-tea, are found so useful in the latter stages; but this *supply of proper nourishment* should *never be overlooked.*

In the year 1837-8, when there were nearly 2000 men employed in constructing the railroads in this district, a most malignant typhus fever broke out amongst those who inhabited a large house which had been temporarily erected for their accommodation, and which was, unfortunately, neither drained or ventilated. Their beds were seldom shook up, or allowed to cool; for, as one set of men got out of them, another set went to sleep in them—exhausted by great fatigue. The fever was very fatal at first; but, by well draining and ventilating this, and various other houses in which they congregated, and the plentiful supply of porter and wine granted by the North Midland Railway Company, the disease decreased rapidly, and at last totally disappeared, even in the hot weather in July.

I am sorry that owing to so many patients having been attended by unlicensed practitioners, from whom the registrar receives the certificates of death, it is not in my power to give the proportion of deaths to the number of cases treated.

Rotherham, 22d January, 1846.

## CASE OF SIALORRHŒA:

### WITH ANALYSES OF THE SALIVA AND URINE.

By R. M. Glover, M.D.

Lecturer on Chemistry and Medical Jurisprudence in the Newcastle-on-Tyne Medical School.

I visited the subject of this case along with Mr. Thompson, of this town, who had been previously in attendance, on the 18th of November, 1844.

"Charlotte Atkinson, a labouring woman, unmarried, aged 35, affected with an inordinate flow of saliva, along with considerable diminution of the urinary secretion. According to her account she overstrained herself three years ago, when carrying a load, and afterwards experienced pain above the left ilium with pulsation. The pain and pulsation subsided, and she only remained affected with swellings in her bowels (flatulence?).

"About two years ago, quite suddenly, she began to have watery discharges from the mouth whilst she was awake. Her mouth would unexpectedly fill, and she would be obliged to spit out the contents. The discharge did not occur when she was asleep. At the same time she began to experience occasional pain in the epigastric region, and her urine became more scanty. For two years after the hurt, she never was unwell, but for the last year she has menstruated regularly. Headache has frequently occurred. The spit has generally been about a pint, and the urine half that quantity, daily. Of late the spit has diminished, and its smell, formerly very fœtid, has improved; the fluid was formerly full of a dark matter, but is now pretty clear. She never had any vomiting, but feels sick after taking food. The tongue is red and clean; she complains greatly of thirst; appetite bad; bowels costive; pulse 76, weak. There is considerable pain on pressure over the epigastric region. Tenderness along the lumbar spine, and in the left lumbar region. Numbness of the right arm. She is often affected with dizziness; says that when in the Newcastle Infirmary, which she quitted on the 26th of September, she had an epileptic fit. She has no palpitation of the heart; she has heavy nocturnal sweats; is very weak: has got much thinner, and seldom leaves her bed.

Although a great deal of medicine has been given to her by different medical men, she has experienced no benefit. It does not appear that she has been mercurialized, although she has taken iodine. No treatment has been employed for some weeks."

A pill of camphor and opium every night, with a little opening medicine now and then, were ordered.

I was unable to make an analysis of the urine and saliva for several days. The symptoms remained pretty constant. The saliva was from 12 to 14 fluid ounces per diem; sometimes clear, at other times containing darkish flakes, and always most fœtid, when these were present. The urine was generally about half a pint, or from 8 to 12 fluid ounces; and of specific gravity, 1032—35. On the 4th of December the urine of the previous day, amounting to 8 fluid ounces in the 24 hours, and the saliva of two days being 22½ fluid ounces, were examined.

The urine, which contained a slight red uric acid sediment, was acid, and had a specific gravity of 1035, taken by the hydrometer, and without regard to temperature. In 1000 grains of the filtered fluid there were—

| | |
|---|---|
| Water . . . | 934·16 |
| Solids . . . | 65·84 |
| | 1000·00 |
| Uric acid . . . | 0·70 |
| Urea . . . . | 16·20 |
| Salts of incineration . | 15·70 |
| Residual bodies . . | 33·24 |

The amount of solids thus obtained from a urine of sp. gr. 1035, is nearly intermediate between what we might expect, according to the results of M. Becquerel on the one hand, and of Dr. Christison on the other. The quantity given above is the mean between the results of two evaporations. According to Dr. Christison's table, urine of sp. gr. 1035, should give no less than 81·55 of solid contents. Becquerel does not ascend higher in his table of the solids, contained in urine, than the sp. gr. 1033·6, which he makes to correspond with only 55·40 of solid contents (Séméiotique des Urines, p. 16), while Dr. Christison gives for 1033, no less than 76·89 of solids. In a series of examinations of the urine, in a par-

ticular disease, which I have lately made, I have obtained almost always a weight of solids (by evaporation of urine of a particular specific gravity) intermediate between those quantities given in the tables of Becquerel and Christison. Some of the discrepancy which exists may be accounted for by the very variable constitution of the heterogeneous fluid examined, so that urine containing the same amount of solids in the same quantities of liquids may yet vary greatly in specific gravity; another portion of the discrepancy is owing to the difficulty of thoroughly drying the urine without decomposition. In the present state of our knowledge it appears impossible to calculate, with any degree of accuracy, the amount of solids from the specific gravity. Thus, according to the formulæ which Dr. Bird presents us with, in his recent work, for making this calculation, we have Dr. Henry proposing to multiply the difference between the sp. gr. and 1000 by 2·58, and Becquerel by 1·65 !

The quantities passed in the twenty-four hours by our patient, would be:— Whole urine = 3622·5 grains, of which 238·51 would be solids; 2·50 uric acid; 58·68 urea; 56·87 salts; and 130·4 residual bodies; so that the diminution fell chiefly upon what we are accustomed to regard as the more important constituents of the urine.

It is singular, that in the most highly concentrated urine, no approach has yet been found to the large quantity of urea which Berzelius found in his analysis of this fluid; so that we may be tempted to think that this great chemist had committed a serious error in his determination of the principle referred to. I have always obtained the urea from the oxalate.

The saliva had a sp. gr. of 1004·2, and was faintly alkaline. The analysis was conducted chiefly in the mode recommended by Dr. Wright. 4000 grs. of saliva were evaporated for a residuum, after filtration. The flakes collected on the filter are set down as ptyalin. The following are the results:—

| | |
|---|---|
| In 1000 parts there were of flakes | 4·00 |
| In 1000 do. of filtered saliva— | |
| Water . . . | 995·50 |
| Solids . . . | 4·50 |
| | 1000·00 |

| | |
|---|---|
| Sulphocyanide and chloride of potassium, extracted from the residue by ether (Wright) | 0·14 |
| Fat and animal extractive sol. in hot alcohol . . | 0·42 |
| Chlorides . . . . | 0·25 |
| Animal extract sol. in water . | 1·53 |
| Albumen and mucus . . | 0·40 |
| Alkaline carbonates and phosphates . . . . | 1·43 |
| Earthy phosphates . . . | 0·13 |
| Loss . . . . . | 0·20 |

This analysis shows a diminution in the proportional quantity of the normal principles, while the animal extract and salts are increased. The loss was 0·8 on 18 grains of residuum. The increase of salts fell chiefly upon the phosphates, as was shown by the very feeble alkalinity of the mass of carbonates and phosphates, and its slight effervescence with acetic acid. Sulphocyanic acid was distinctly detected by the permuriate of iron.

From this period till the 10th the urine increased, and the flow of saliva diminished, although alternations occurred, and whenever the urine diminished, the saliva became more abundant. On the 10th, nearly two quarts of clear urine, of sp. gr. 1012, were passed, and scarcely any saliva was secreted. Two days before there was a sudden diminution of the urine, when a great increase of the salivary discharge immediately occurred.

On the 28th of January, Mr. Thompson reported to me that she had frequent cold perspirations, that the discharge from the mouth was as abundant as ever, and occasionally mixed with blood. Urine scanty and thick, with a white sediment; pulse slow and weak; tongue clean; frequent flushings of the face: otherwise as before.

When the saliva was again increased, I took the opportunity of testing it for urea, using 4000 grains, concentrated as highly as possible; but I was unable to discover any of this important principle; nevertheless, the phosphates and animal extract may be regarded as supplementary of principles of the urine.

From this time the patient has continued very much in the same state so far as I have been able to learn. When the urine is in normal quantity the flow of saliva generally ceases.

The treatment, while I saw the case, consisted in the use of diaphoretics,

sedatives, and aperients, but very little benefit appeared to be derived from it.

The most complete series of observations hitherto published on sialorrhœa, appear to be those of M. Tanquerel des Planches, reviewed in the Archives de Médecine, for October 1844.

In the idiopathic sialorrhœa, according to this author, the flow takes place as well in the night as in the day time. The physical properties of the saliva undergo no particular alteration, except a fœtid smell and diverse taste; the chemical properties offer, on the contrary, very considerable modifications. These are, according to MM. Guibourt and Quevenne, "the reddish-yellow colour of the residue, the presence of a large proportion of brown extract of the odour of ozmazome, and of an animal matter, having the properties of non-coagulated albumen. Mr. Tanquerel des Planches has never found the saliva acid in cases of sialorrhœa."

He describes the consequences of ptyalism as being "the hindering of the speech and of mastication: the depravation of the taste, and more or less distinct disorders of the stomach, a sense of constriction at the throat, constipation, flatulency, great thirst, exhaustion, and nervous symptoms, complete the list. Ptyalism is generally chronic; rarely intermittent; subject to exacerbations, according to very variable circumstances. In general it disappears as rapidly as it came; abundant stools or sweating have been seen to coincide with its disappearance."

He advises much the same treatment as that which we employed.

It is obvious that many of the observations of M. des Planches apply to the case before us; but here the disease appeared to depend upon a perversion of the secretion of the kidney, perhaps originally brought on by external injury.

Newcastle-on-Tyne,
Jan. 19, 1846.

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RESIGNATION OF MR. ANTHONY WHITE.

Mr. Anthony White has resigned his seat at the Board of Examiners at the College of Surgeons. It is asserted that he is about to resign his appointment of surgeon to the Westminster Hospital.

AN ACCOUNT OF A VERY UNUSUAL

## MARK (NÆVUS?) ON THE NECK OF AN INFANT.

By George Harvey, Surgeon.

On Friday, Feb. 6th, between seven and eight P.M., I was summoned in haste to attend M. E., in labour with her second child; this event was not expected to take place before the beginning of March. On arrival I found the membranes had just ruptured; the os uteri was fully dilated, and the breech pressing on the perineum. Two moderate pains expelled the child, which never breathed, but merely gave two or three convulsive gasps and died. Whilst endeavouring to restore animation, I observed a bright red mark, extending completely across the upper and fore part of the neck, from one angle of the lower jaw to the other, exactly as though produced by strangulation with a cord, except that the mark was not continued round to the back part of the neck. This mark was not like a bruise or ecchymosis, but was of the vivid red colour of arterial blood; it was not raised above the surface, but had very much the appearance of a recent excoriation; so much so, that on first touching it, I expected to find my finger stained with blood, but the epidermis was in no part broken or abraded. This mark was most clearly defined in front, where it was about a quarter of an inch in breadth. At the sides it was more diffused, particularly on the left, extending down towards the clavicles. The face was not swollen, neither were the veins full, as though any obstruction existed to the return of blood to the heart; but the external jugulars, *below the mark*, were both filled with dark blood. Had the mark been caused by strangulation, the jugulars below the stricture would probably have been found empty, and the face turgid. The funis was of the usual length, and not coiled either around the neck, or any other part, but perfectly free. I have, hundreds of times, seen the funis coiled round the neck of the child, but have never once known it to produce the slightest bruise, or mark of any kind. On examining the part, on the following morning, with a powerful lens, I

could discover no blood-vessels ramifying either over the surface, or around the edges, as commonly seen in a true nævus maternus.

The placenta was thrown off spontaneously immediately after the birth of the child. A very considerable hæmorrhage followed, which induced me to have recourse to my favourite remedy, the basin, as described in the MEDICAL GAZETTE of the 30th ult., which proved efficacious.

Had this been a secret, or sudden and unassisted delivery, would not a coroner's jury have unhesitatingly pronounced it a case of infanticide?

Castle Hedingham, Feb. 10, 1846.

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### UNIVERSITY COLLEGE MEDICAL SCHOOL.

WE learn, from the Report of the annual meeting of proprietors which took place on Wednesday last, that during the year 1844-5, the total number of medical students amounted to 320, and the fees received in this department amounted to £7,683. 15s. In the current session, up to the present date, the number of new entries, was 95—total 285; and the amount of fees £3,860. 19s. The new entries to hospital practice were 76; and the sum received for fees £1,667. 10s. It was further stated in the Report, that, in the course of the year 1845, the University of London conferred the degree of M.D. on ten candidates from five schools, six of the candidates being from University College; and the degree of M.B. on sixteen candidates from eight schools, four being from University College. Lord Brougham was re-elected President, and the Earl of Auckland Vice-President.

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### FOTHERGILLIAN MEDAL.

WE have been requested to announce, that the Fothergillian Medal, for an Essay on the Pathology and Treatment of Scrofula, has been awarded to Dr. Glover, of Newcastle-upon-Tyne.

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### ANNIVERSARY MEETINGS OF SOCIETIES.

THE anniversary meeting of the Royal Medical and Chirurgical Society is to be held on Monday next, March 2, at 4 P.M.; and that of the Medical Society of London, at the Crown and Anchor Tavern, Strand, on Monday, the 9th, at 5 P.M.; Mr. Bishop will deliver the oration.

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# MEDICAL GAZETTE.

FRIDAY, FEB. 27, 1846.

*Bis dat qui citò dat* is an old maxim, upon which we think the Council of the Royal College of Surgeons would do well to act at the present juncture. On various occasions within the last year, rumours have been circulated that they intended to apply to Government for a new Charter, to enable them to act justly towards many worthy members of the College, whose names had been passed over in the two lists of Fellows. The statement made by Sir James Graham, on the introduction of the last Medical Bill, led to the hope that a new Charter would be speedily granted. We have reason to believe that the subject has been for a long time agitated in the Council, and that there are many of its members who are anxiously looking forward to this desirable result, which, in our opinion, would do more to conciliate the members of the College than any other measure that could be adopted. From what we can learn, the only cause of delay at present, is the drawing a fair and clear distinction between those who should have the fellowship granted to them *de jure* under the new Charter, and those who should be altogether excluded. A little discussion might surely suffice to remove any difficulties on this head. The fellowship should undoubtedly be made to indicate a certain standing in the profession,—it may be twelve or fifteen years; while it should be open to junior members to obtain it earlier by examination after a certain period devoted to study and practice. Those members who have mixed up their professional practice as surgeons with the business of a chemist and druggist, or "combined the retail," as it is called, should be excluded; and we need

hardly observe, that the host of M.R.C.S.s who drive a thriving trade in the open support of quackery, by lending their names to mock dispensaries or infirmaries,—the puffers of "People's medicines" and "the writers of indecent advertisements," &c. &c. should be allowed to have no claim whatever to the fellowship, by examination or otherwise. We trust before long to be able to announce, that the Council, in spite of some little difference of opinion among the members, have obtained a charter from the Crown, to enable them to proceed forthwith in conferring the fellowship upon those members of the College who really deserve it, and whose names appear to have been originally omitted, either because they did not happen to be known to any member of the Council, or their friends were lukewarm in their support.

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THERE has been of late years, much discussion on the reform of the Criminal Law; and from the proceedings which took place at the close of the last session of Parliament, it appears not improbable that we shall shortly have a consolidation of the very numerous statutes which are now in force for the repression of offences against the person. In some heinous crimes, such as child-murder, rape, and abortion, the evidence of medical practitioners is very frequently required: indeed, without this evidence, the law would often be rendered inoperative. It is, however, not a little remarkable that while the special services of medical men are so necessary to the proof of the above-mentioned crimes, — these services should be entirely dispensed with in the framing of the statutes for their repression. We believe, and hope to prove, that good medical experience is as urgently demanded in framing some statutes as in carrying out their provisions; and it is a matter deeply to be regretted, that medical are not appointed with legal commissioners to aid in the consolidation of laws, the provisions of which are based on medical facts and doctrines.

In regard to the crime of rape, we need only call to mind the casuistical discussions, which have taken place respecting the meaning of the words "carnal knowledge." Formerly the law required proof of emission, as well as penetration; but this very absurd rule was abolished by an act passed in the reign of George IV. Such an amendment would not have been necessary, had proper medical advice been taken in the original construction of the statute. In respect to criminal abortion, there was a still more glaring absurdity,—the crime was formerly held to be capital or not capital, according to whether it was perpetrated on a woman after or before quickening. This distinction was founded on the very ancient hypothesis, that it was only in quickening that the child received a soul or vital principle, while before quickening, it was coolly regarded in the eye of the law as "*pars viscerum matris.*" As females quicken at very different periods, and there is in many cases great uncertainty respecting this condition—all kinds of evasions were resorted to, in order to bring in the offender guilty of what was termed the *minor* offence. The result was that the punishment for abortion was rarely adequate to the crime; and the conviction of an offender, depended less on the degree of his criminality than on the mere concurrence of accidental circumstanees.

A proper medical consideration of the subject, would have prevented the introduction of so absurd a distinction into a statute, passed so recently as the year 1828. Nevertheless it

continued to be the law until the first year of the reign of the present sovereign, when capital punishment was abolished, and with it this distinction in the crime was withdrawn*. It still survives, however in another shape; and here the interposition of medical men is strongly demanded. We allude to the case where a pregnant female has been capitally convicted. Unless it can be shown that she has *quickened*, the law takes effect; and for proof of quickening, it relies entirely upon the opinions of a jury of ignorant women, who may be accidentally present! Not to mention that the principle of hanging a pregnant female merely because she may not have quickened, is contrary to reason and justice,—the mode taken to obtain proof, either of the fact of pregnancy or quickening, is highly objectionable. Some years since, a case strongly illustrative of the injustice liable to be done by pursuing this antiquated precedent, was reported in this journal.† Several cases have occurred since that time, and we regret to state, that so late as the year 1843, one of our judges resorted to the jury of matrons, who negatived the plea of pregnancy on the part of a female capitally convicted!

But the objections to legal definitions and the limitation of medical proofs, in respect to such crimes as rape and criminal abortion, are far less grave, than those which may be urged to the present state of the English law regarding child-murder. Whether this crime, when clearly proved, should or should not be punished with death in all cases, is not here the question. The policy of the law of every civilised state, is to check it. The frequency with which females are charged with it, and the facility with which they escape conviction, even where the medical and moral evidence is very strong against them, are facts sufficiently notorious. It is very true that when acquitted of the murder, they are commonly found guilty of "the concealment of birth;" but this appears to be a mere legal loop-hole to enable them to escape from the punishment attached to the crime of child-murder by the law.

The following case, which has just been tried on the Northern circuit, will, we think, place this matter in a clear light; and will, probably, show that the subject is not unworthy of the attention of the Criminal law commissioners.*

A female servant was charged with the murder of her infant child. The evidence went to prove that she had attempted to conceal her pregnancy: it was ascertained that she had been delivered of a child, and the evidence of the medical man, which was given much more clearly than is usual on such occasions, was to the effect, that the throat of the child had been cut by some thin-bladed sharp instrument; a portion of the gullet and windpipe having been cut away. The prisoner stated that the child was born dead, and confessed that she had, as she believed, cut its throat with a penknife, which she had afterwards wiped and put away. The weapon was found in her pocket. The medical witness was able to say that the child had *breathed*; and he was inclined to think it probable that it had been born alive. He admitted that a child may breathe when partially born, and die before it is wholly born; also, that the appearance of the wound, whether inflicted before, or immediately after death, would be very similar; and it was impossible from the examination of it to say, whether the child was partially or wholly born at the time of its infliction. The counsel for the prisoner contended,

* The present statute relating to attempted abortion, makes no mention of the pregnancy of the female. While some judges hold that proof of pregnancy is essential, others act upon the principle that it is not necessary; although it would be difficult to say how abortion could be attempted on a female *not* pregnant!

† Vol. xii. pp. 24, 585.

* Regina *v* Hacking. Lancaster Assizes, Feb. 19th.

that no evidence had been adduced which could satisfy the jury that the child had been *fully born alive*, a circumstance without which the charge of murder must fall to the ground. The jury acquitted the prisoner of the murder.*

How the law was laid down on this occasion by the learned judge is not stated; but it is very well known, that nearly every judge has ruled it to be necessary, before conviction for murder, that the prosecution should prove that which was insisted on by the counsel for the prisoner, namely, the *complete birth of the body of the child* into the world, when the wounds or other mortal injuries were inflicted on it. We do not wish to say anything impugning the verdict in this case: if the law be as it is above stated, the jury could not do otherwise than acquit the female of murder. They may have considered that the removal of a slice of the trachea and œsophagus in a child born *dead* (!) as the prisoner stated, or in a child living and breathing, but not entirely in the world, as the medical evidence proved, was a venial offence, probably perpetrated by the woman in a state of unconsciousness, and under some delusive idea of aiding the efforts of nature in its expulsion! But the serious question presents itself, occurring, as it necessarily must, in nine cases of child-murder out of ten, (for those females who really murder their children, generally select the act of birth or the few moments which immediately follow it, for the perpetration of the offence,) whether the destruction of a living and breathing child *during birth*, is or is not to be regarded as a crime? The above case, and many others precisely similar, might be adduced to show, that, in order to constitute murder, it is not the *wilful destruction* of the life of a child which the law regards, but it is the *period* at which the violence is inflicted. This may or may not render the act criminal, and the individual responsible. The rule of law appears to be based on the principle, that until the body of a child is entirely in the world, "it is not a *reasonable (i. e.* a *human) creature in being*," and therefore to kill a healthy full-grown child in its mother's womb, or, as we learn by the case quoted, in the act of being born, is not murder, nor, indeed, does it appear to be any offence whatever in the English law! The only precaution requisite for a person to escape the penal consequences of child-murder, is therefore to take care that the violence is sufficient to destroy life at once, and to prevent the child from being born with any signs of life about it. This principle is carried to such an extent in charges of infanticide, that, as in the case related, the legal presumption will be in favour of the mortal wounds having been inflicted before entire birth, notwithstanding they may bear about them marks of great deliberation.

If infanticide is to be suppressed at all, this surely is a case which demands legislative reform. The law as it stands at present, shows how the crime (morally speaking) may be committed with complete impunity; it tells the murderer in the plainest language, "Provided you take care to destroy the child effectually before its body is entirely born, you may escape all legal responsibility for the act; this is incurred only by those who either do not employ sufficient violence during birth, or who are ignorant enough to wait, before inflicting it, until the child is entirely in the world."

The subject appears to us to need no further comment. It stands sufficiently clear, so far as we can judge from legal dicta and numerous verdicts. Admit-

* Times Report.

ting that many females, who are acquitted upon this legal technicality, are found guilty of "concealment of birth," this is an offence not necessarily connected with the destruction of the child; and assuredly it is not the part of sound legal policy, to try a person for a heinous crime like murder, merely upon the chance of finding her guilty of what is comparatively a trivial offence. Punishment for the mere concealment of birth, is not very likely to act as a check upon the crime of infanticide. The means are wholly inadequate to the end.

If, divesting this question of legal technicality, the advocates of the present state of the law can show that a breathing and living child, in the act of being born, and with its head protruding from the outlet, is not "a *reasonable creature in being*," as much as a child, one or two seconds after its *entire* birth, we have nothing further to say; but the fact would then remain, that there is a very easy and expeditious way of destroying children without incurring the legal consequences of child-murder! If they cannot show this, and we think that, except upon the most casuistical distinctions, they would find it to be impossible, then it follows, that the present state of the criminal law is sadly defective and requires immediate alteration.

A high Law-authority, who took part in the discussion on the Criminal Law Report in the last session of Parliament, observed, that a Board of Commissioners was required for revising the statutes passed from time to time by both Houses of Parliament. "Some of these acts contained more extraordinary provisions, than any one to whom it had not occurred to search into their recesses, could possibly imagine." We quite agree in this view; but unfortunately the only Commissioners appointed on all these occasions are lawyers, clever men in their own profession, but who are allowed to deal *ad libitum* with legislation for offences and crimes requiring a degree of knowledge of medical subjects, entirely alien to their pursuits. As the necessary results of this plan, we find that some crimes are imperfectly defined, and in others the proofs required are either inadequate, unintelligible, or such that no amount of medical knowledge or experience can supply them. In the meantime the law is reduced to a nullity and justice is defeated.

## Reviews.

*The Potato Disease; its Origin, Nature, and Prevention; with a Chemical and Microscopical Analysis of the Sound and Diseased Tubers.* By G. Phillips, of the Excise, and Member of the London Chemical Society. 12mo. pp. 58. London: Highley. 1845.

Mr. Phillips has evidently devoted much attention to the chemical and microscopical characters of the potato in its sound and diseased conditions. He draws the following conclusions with respect to the *cause* of the potato disease, which has for some time been so much under discussion:—

"First, The change that takes place in the constituents of the potato is purely chemical.

"Secondly, The chemical action is proximately induced by the decomposition of azotized matter.

"Thirdly, That no decomposition of the starch takes place, even though the tuber be reduced to a soft pulpy mass, varying in colour from yellow to brown and black, and emitting a fetid and disagreable odour." (pp. 13-14).

He afterwards proceeds to state the observations which lead him to conclude that the disease appears to have arisen primarily:—

"1st. From too much moisture—the effect of long-continued rains—which

"2nd. Stimulated the plant beyond its ability, and then overpowered it.

"3rd. The plant formed more pendulums and tubers than it could support, which

"4th. Being left to themselves, putrified;

surrounding circumstances being favourable to their decay." (p. 46).

At the conclusion of the pamphlet, a chapter is devoted to the means by which the occurrence of similar disease may be prevented in future, the chief precaution insisted upon being that of trenching the ground for the purpose of relieving the roots and tubes from an excess of moisture), and the plan by which the stored tubers may be preserved, the chief requirements for this purpose being, "First, absence of moisture. Secondly, plenty of air: a current passing between the tubers is the most efficacious, as it dries their surfaces. It is of no moment in what way these conditions are complied with, so long as they are observed and maintained in some form." Some judicious hints are also given with regard to the proper mode of selecting cuttings, and upon the means of separating potato-starch from the tuber. The author considers that he has discovered a substance (which he terms "*Potateine*"?), wherein reside the aroma and flavour of the potato;—"when a potato is divested of it (potateine), it is flavourless, and has no characteristic by which it could be distinguished." The potateine may be procured in the following manner:—

"Wash the potato quite clean, and wipe it dry, grate it so as so form a pulp, digest in alcohol of a density of 825° or 828°, using at least half a pint to three ounces of potato. After it has digested three or four hours, and been frequently stirred, filter and distil off the alcohol to one fourth or less; evaporate the remainder to dryness in a water-bath, and the potateine containing colouring matter will be removed. Potateine, in the state in which I have procured it, contains potash, and probably solanine. I have not, however, had time to investigate its properties generally; but from its character, I suspect it will be found to contain a large proportion of azote as a constituent.

Great allowance must of course be made for this cursory examination; but the substance, as at present recognized by Mr. Phillips, appears to be of a very compound nature, and we suspect that he must bestow far more care upon its eduction and analysis before he can expect to be recognized as the discoverer of a new chemical principle.

The details of Mr. Phillips' pamphlet are of considerable interest at the present time, and we believe that many of the author's suggestions will prove highly valuable to agriculturists.

*Dr. Quain's Anatomy. Fifth Edition.* By Mr. Quain and Dr. Sharpey. Part II. London: Taylor and Walton. 1846.

The former editions of Dr. Quain's work have long been highly appreciated by anatomical students, as affording a remarkably clear and accurate description of the osseous, muscular, nervous, and vascular systems. The copious and interesting additions which have been made in the present edition give to the work that importance which is now required in a book professing to treat of the anatomy of the human body, since a competent acquaintance with the microscopical structure of organs has been rendered absolutely indispensable to those who hope to pursue the study of physiology and pathology with success. The editors state that the principal part of this volume has been written anew; and, to this circumstance, the delay which has occurred in its publication is in a great measure due. The plan of publishing text-books for students in detached parts, issued at long intervals, is open to several obvious and strong objections; but, in such instances as the present, the importance of the works must be taken in excuse. We have no doubt that the introductory part of the present volume, which is devoted to an account of the composition of lymph and chyle, and the microscopical characters of the various forms of epithelium, cellular, fibrous, and muscular tissues, cartilage, and bone, must have cost the authors no small amount of labour. The microscopical anatomy of the tissues is described with great clearness and precision, and is illustrated by numerous exquisite wood engravings. The work is one which, even in its unfinished state, we strongly recommend to students.

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*On Famine and Fever, as Cause and Effect, in Ireland: with Observations on Hospital Location, and the Dispensation, in Out-Door Relief, of Food and Medicine.* By D. J. Corrigan, M.D. M.R.C.S.E. &c. 8vo. pp. 33. Fannin and Co. Dublin. 1846.

Many years ago, the author of this pamphlet advanced the opinion that famine and fever occur in Ireland in

the relation of cause and effect, and this conviction has evidently become greatly strengthened by subsequent research and observation. The anxiety which now prevails in Ireland with regard to the danger of famine among the poorer classes, from the anticipated failure of the potato crop, has led the author again to place this important subject under discussion; and, in the course of his pamphlet, he certainly succeeds in bringing forward several highly interesting and startling details. In the body of the pamphlet the author takes briefly into review the circumstances that preceded or accompanied the most remarkable epidemic fevers which have occurred in Ireland during the last hundred years. At the conclusion of this summary, he remarks:—

"Even a rapid glance at the table, as I have arranged it, will show that, however all other circumstances—as time, season, climate—might have varied, this one condition, famine, was never absent. No matter how climate altered, or seasons revolved; so surely as want appeared, so certainly did pestilence follow. The two have also kept pace with one another; as the degree of want, so has been the extent of fever. The author is fully convinced that it is far less immediately to the influence of climate or season, absence of cleanliness and crowded apartments, intemperance, or contagion, that the origin and spread of fever in the land is to be attributed, than to the baneful effects of famine."

The means of prevention and remedy for this evil are obvious enough. In urging his arguments upon the necessity of establishing means by which relief may be afforded to the destitute sick during the period of anticipated dearth, he strongly recommends the formation of dispensaries where *food* and *medicine* may both be distributed. From the whole of the facts which he adduces the author forms the deductions that—

"Epidemic fever, originate as it may, soon acquires a contagious power—a power of generating and of propagating itself, and thus involving all, rich and poor, in the country in one common danger; and that employment and wholesome food will be the best prevention, aided, should the necessity arise, by hospitals to extinguish contagion."

We wish that our space would permit us to quote many of the interesting facts which appear in every page of this Essay; we can, however, only select the following:—

"I know not of any visitation so much to be dreaded as epidemic fever; it is worse than plague, for it lasts through all seasons. Cholera may seem more frightful, but it is in reality less destructive; it terminates rapidly in death, or in as rapid recovery; its visitation, too, is short, and it leaves those who recover unimpaired in health and strength. Civil war, were it not for its crimes, would be, as regards the welfare of a country, a visitation less to be dreaded than epidemic fever. Epidemic fever, as it has appeared in Ireland, persists through all seasons; and when it has seized on an individual, generally extends to every member of the family, leaving no one of them capable of struggling against the common destitution. In Dublin alone, notwithstanding all the means of prevention that wealth and charity supplied, 42,000 patients, or one-sixth of the whole population of the city, passed through the fever-hospitals in the epidemic of 1817 and 1818; and of six millions, the estimated population of Ireland at that time, at least one million and a half of the labouring classes suffered from fever. Of these about 60,000 died; but we shall have a very incomplete idea of the evils of fever if we limit our estimate of them by the extent of the mortality. It is not possible to form an exaggerated picture of the sufferings of a million and a half of people in these countries in their convalescence from fever, deprived of not only the comforts, but even the necessaries of life, with scanty food and fuel and covering, only rising from fever to slowly fall victims to those numerous chronic diseases that are sure to seize upon enfeebled constitutions. Death would be to many a more merciful dispensation than such recovery. It is not to be wondered at that a population that has thus suffered should for a long period bear the stamp of the infliction. The generation that has thus suffered cannot again be what it has been. What is commonly observed of the individual is true of the people—'He was never the same man since he had the bad fever'—and the offspring will inherit, for generations to come, the weakness of body, and apathy of mind, which famine and fever had engendered."

We do not believe that the apprehension of personal danger will be required, to induce the wealthier classes of a people whose liberality is proverbial to combine in measures for the relief of their poorer countrymen, but the following is certainly a home argument:—

"It is a curious circumstance in the

history of the epidemic fever in Ireland, that while the poor are attacked in greater numbers, the rich suffer more in mortality. The mortality among the poor is only about one in thirty, but the mortality among the rich is estimated at the lowest as one in three. It seems, therefore, that while the rich possess constitution and means, which enable them to resist the ordinary contagion of fever, the seizure, when it does come, is in itself demonstrative of a greater amount of virulence."

Or perhaps it is more probable that a large proportion of those of the wealthier classes who are attacked, are individuals in whom morbid predisposition exists; these readily succumb to the malady, while healthier persons altogether escape contagion.

We have perused the whole of Dr. Corrigan's forcible and argumentative remarks with great interest. His reasonings do him equal credit as a man of humane feeling, and as a sound physician.

## Proceedings of Societies.

### ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Dr. Chambers, President.

*On the Advantages of Submucous Tenotomy for the Relief of Strabismus.* By C. Brooke, M.B. Cantab. F.R.C.S.E.

The author remarks that this operation does not, at the present day, prefer any claim to novelty, having been long since proposed and practised; but as the physiological reasons which appear to render this mode of operating preferable to any other, as being more likely to avoid the usual sources of failure, are very conclusive, and have not, as far as he is aware, been clearly pointed out, the subject may not, perhaps, be considered unworthy the attention of the Society.

The occasional return of the strabismus as a consequence of the ordinary mode of operating by a free division of the conjunctiva, may be explained on the physiological principle, that whenever a superficial wound of which the edges are capable of being approximated is allowed to heal by granulation, and to cicatrize, so strong is the tendency of nature to restore the continuity of the normal integument, that although a cicatrix of considerable width may at first appear, this will invariably be subsequently removed by interstitial absorption, and a linear cicatrix will alone remain. This principle is presumed to be applicable to the eye. When the conjunctiva is freely divided, as well as the tendon itself, both will probably be reunited to the eyeball at a point posterior to that from which they had been separated, and the intervening space will be filled up by granulation. But when the subsequent process of absorption takes place, the conjunctiva, and with it the tendon, will be more or less restored to their former position, and the strabismus will return.

In all the cases in which submucous tenotomy has been performed, the result has been successful. The paper is concluded by a description of the mode of performing the operation.

Dr. Gregory, to elicit discussion, drew attention to the protrusion of the eye-ball after this operation, occurring sometimes immediately, at others not till weeks after the proceeding.

Mr. B. B. Cooper questioned whether the operation for strabismus was desirable or not. The deformity was most frequent in children, who, under constitutional treatment, usually recovered from it. He had performed the operation frequently, but usually some protrusion followed, and the symmetrical action of the eye was lost. Whether the operation was submucous or not mattered little as to the result. He alluded to the case of a child eleven years of age, who had suffered first from strabismus, at the age of four years; the deformity, under attention to the general health, was gradually lessening. Like other cases of this kind, the defect was more observable under states of mental excitement.

Mr. Prescott Hewett considered the operation should not be performed on young children. In adults it was a fair operation, and had proved a successful one in his hands. He related the dissection of a case which had been operated on some months previously, the patient dying from disease of the lungs. The muscle, which had been divided, was attached to the eyeball immediately behind its original attachment by means of a long slender tendon, formed of condensed cellular tissue three lines in length; this rendered the muscle operated on as long as the other recti.

Mr. Dalrymple had witnessed many operations for strabismus, and seen no bad results follow them. He had heard of a case, however, in which the sclerotic was wounded, the vitreous humour escaped, and the eye was lost. In another case much ecchymosis ensued, followed by supuration and loss of sight. There was more fear of danger from ecchymosis when the submucous operation was performed, than when the common pro-

ceeding was resorted to, as there could not, in the former, be a free escape of the effused blood. Granulations were not uncommon from the point of puncture, but as the wound decreased in size, the base of the granulation became very small, and it might be easily snipped off with a pair of scissors. He attributed the occurrence of external strabismus, after division of the internal rectus, to bandaging the eye operated on after the division, and he recommended tying up the sound eye instead, for two or three days. He thought the operation should not be performed before puberty, particularly on girls, as the occurrence of menstruation might remove the defect. Operation would not cure in cases where a child squinted on one day and not on another. He related a remarkable instance of this kind, in which on alternate days there was no squinting whatever; this continued for ten months. Quinine was given. He did not know the result. Intermittent strabismus, though not so marked as in this case, was not rare.

Mr. WADE would not operate until adult age, or as long as there was any hope of cure from constitutional treatment. He had performed this operation many times. When he commenced the operation, he not only divided the tendon, but any fibres or cellular tissue which prevented the eye from becoming quite straight at the time, and tied up the eye afterwards. The eye protruded, and no benefit resulted from the operation. He had since only made a small opening into the conjunctiva, and merely divided the tendon, tied up the sound eye, and kept the patient in a darkened room. No bad results had followed, except, in a few cases, an almost inappreciable increase of fulness in the eye, which, however, was not a balance against the good effected.

*Case of Aneurism, presenting some Peculiarities, with Remarks.* By Mr. PRESCOTT HEWETT.

G. B——, aged thirty-one, was admitted into St. George's Hospital, under the care of Sir Benjamin Brodie, in May, 1839, with a pulsating tumor in the groin, of the size of a pullet's egg, and presenting all the characters of an aneurism. The tumor had existed about three weeks, and had made its appearance without any apparent cause. The patient's general health was good, but he had been in the habit of drinking hard. As a careful examination of the heart and large arteries did not point out any disease in these parts, Sir B. Brodie applied a ligature, on the 30th of the month, to the external iliac artery, and all pulsation in the tumor ceased immediately. The operation was followed by peritonitis of a low character, from which he, however, gradually rallied. The ligature came away on the 25th day after it had been applied. The wound in the groin healed; the tumor became solid, and gradually decreased in size, and the patient was discharged cured on the 14th of August. At the latter end of November he was readmitted, on account of a slight return of pulsation in the tumor, which had somewhat increased in size. The pulsation had reappeared at the beginning of the month. Pressure by means of graduated compresses was ordered to be tried. This plan was persevered in for two months, at the end of which all pulsation and sound again disappeared. In November, 1841, the patient was seen again, and it was observed that there was a slight recurrence of the pulsation, but without any increase in the size of the tumor. In January 1842, all pulsation had ceased in the tumor, but it had increased somewhat in size; from this period it gradually but steadily increased, and in the course of the ensuing twelve months it grew to the size of the egg of an ostrich, without even presenting either pulsation or sound of any kind. In January, 1843, the tumor became stationary, and some time afterwards it began to diminish. The decrease in size continued until July in the same year, when the patient died of phthisis.

On examination after death, the tumor was found to be connected with the superficial femoral artery, immediately below its origin. When separated from the neighbouring parts, it was of the size of a full-grown fœtal head, and perfectly solid. Upon being cut into, it presented the characteristic layers of blood observed in aneurisms. Its covering was formed by the outer coat of the artery, and its cavity was completely blocked up by coagula. About two inches of the superficial femoral connected with this tumor were completly obliterated. The common femoral was dilated to the size of the common iliac. The internal surface of this dilated vessel was lined with some thin coagula, and covered over by a membrane of new formation, beautifully adapted to the internal coat of the artery, of which it at first appeared to be a part. A large and distinct channel was, however, still left for the circulation of the blood through the vessel. The external iliac, from a little above the origin of the epigastric and circumflex arteries to within a quarter of an inch, was obliterated, and reduced to the size of a small quill. The branches given off by the external iliac, common and deep femoral arteries, were much increased in size.

Having remarked on the recurrence of pulsation in this tumor, Mr. Hewett proceeded to call the attention of the fellows to the fact of this aneurism having grown in the space of twelve months from the size of a hen's egg to that of an ostrich's egg without either pulsation or sound of any kind being heard in it, although it was repeatedly

and carefully examined by several experienced surgeons, many of whom explained the case by the supposition that the tumor was of a malignant character, and fed by large arteries, the supply of which had been cut off by the obliteration of the external iliac—a fact most worthy the attention of practical surgeons, especially when the details of this case are compared with some of the details of the cases of pulsating tumors brought before the Society by Mr. Stanley, and published in the last volume of the Transactions.

Mr. Hewett concluded by making some remarks upon the general pathology of aneurisms, in connexion with the thin coagula, lined by a membrane of new formation, which were found in the dilated common femoral artery.

Mr. Bransby Cooper said that it was not uncommon for pulsation to occur in an aneurismal tumor after operation, if proper means, such as quiet, were not resorted to, particularly in a main artery, and where there were anastomosing branches. Excitement of any kind inpeded the formation of a coagulum. He related a case in point, which he had fully related at a previous meeting of the Society, and which was reported in this journal at the time.

Mr. Toynbee noticed another interesting point in Mr. Hewett's case, which was, the formation of a dilated cavity, of considerable size, in the space between the obliterated artery and the aneurism, and forming almost a second sac, as the result of the operation. This cavity would account for the great increase in the size of the tumor after it had become to all appearance quite solidified.

February 11, 1846.

*On the Ganglionic Character of the Arachnoid Membrane of the Brain and Spinal Marrow.* By G. Rainey, M.R.C.S., late Microscopist to St. Thomas's Hospital.

The author commences his paper by observing that, as it has never been supposed by physiologists that there exists within the cavity of the cranium an especial provision of organic nerves for the cerebral vessels corresponding to those which in the abdomen go from the cœliac plexuses to the vessels of the viscera, the arachnoid serving as a membranous plexus, in which they ramify, the announcement of this view can scarcely fail to be received by physiologists with extreme doubt, and therefore, under this conviction, he considered it admissible, at the commencement of his paper, to state that the views therein set forth are based entirely upon anatomical facts. The first idea which the author conceived of the sympathetic character of the arachnoid was from observing a number of cords situated between the arachnoid and pia mater, one of the extremities of which ramified upon the coats of the arteries, the other in the arachnoid membrane; the latter ramifications, after becoming very minute, were lost among a quantity of minute corpuscles, of which many parts of the membrane appeared to be made up. From the connexion and mode of ramification of these cords, they were inferred to be nerves, and on being compared with nerves decidedly sympathetic, they were found to have precisely the same characters. The microscopic characters of these fibres, and also those of nerves undoubtedly sympathetic, taken from different parts of the sympathetic system, were very minutely described. The result of the author's dissections showed that the presence of the under fibre, as described by Henlé, was by no means common in the minute filaments of the sympathetic, and those most remote from the ganglia. The nervous character of these cords being established, the fact of their springing by numerous branches from the arachnoid, uniting to form trunks, and going to be lost by ramifying on the cerebral arteries, led the author to conclude that the arachnoid stood in the same relation to these nerves, and the vessels which they supply, as the various plexuses and ganglia in the abdomen do to the nerves proceeding from them to the vessels of the viscera, and therefore ought to be regarded as the sympathetic origin of these nerves, or at least as the plexus connecting them together; more especially as cerebral nerves could be traced into the plexuses of the arachnoid, and their connexion with the carotid plexus demonstrated.

Besides the corpuscular character of the arachnoid, he describes in some parts of it ganglionic bodies of a very simple kind, also on its dura matral surface some laminated ones, with a clear fibre terminating in them, resembling very much the corpuscles of Pacchini. He has also found other laminated bodies, which he regarded as the product of disease, and which he believed had not been before observed in the arachnoid. Dr. E. Harless had given a minute description of similar structures on the pia mater and choroid plexuses, in a late number of Müller's Achives; but this author regarded them as connected with the vessels, and allied to ossification.

The author alleges that Valentin's notion of the epithelial character of the choroid plexuses is incorrect, and that the corpuscles situated upon it are globular, if examined without pressure being made upon them, and instead of resembling a tesselated epithelium are very similar to ganglionic corpuscles occurring in the ganglia of the sympathetic, having a spherical form and vesicular character, and containing molecular matter with

a nucleus. The vessels supplying them are also accompanied abundantly with the fibres going from the arachnoid. From these resemblances to the vesicles clustered upon the ganglia of the sympathetic, the author infers that there is probably something common in their function. The author does not consider the whole of the arachnoid to be nervous, but that this property resides chiefly in those parts which are made up of soft corpuscular mater, and the ramification of the arachnoid cords. He admits that the external layer is continued upon the dura mater, and covered by a tessealted epithelium; but that the opposite surface, being made up of plexuses, which are connected with the vessels of the pia mater, cannot be reflected upon the dura mater. The author mentions many circumstances in which the arachnoid differs from serous membranes in the parts, and he contends that, as no *gliding* motion can take place between the parts contained in the cavity of the cranium, there can be no friction; and, therefore, a membrane like the arachnoid, were its office only to prevent friction, would be unnecessary. He observes that a membrane so soft and tender as are many parts of the arachnoid, so as scarcely to allow of being raised with the forceps without laceration, is ill adapted for preventing friction or for performing any other function merely mechanical. From this circumstance he argued that the fibres of which these parts are composed resemble in their consistency soft-nerve fibre, more than fibro-cellular or elastic tissue, and that it would be paradoxical that there should be such an abundance of mere fibro-cellular tissue—a mechanical organ—in a part almost without mechanical properties, or of elastic tissue, in a membrane destitute of elasticity. The author argues, that unless the fibres going from the arachnoid to the vessels of the pia mater be organic nerves, the brain, compared with other organs supplied by the sympathetic, would not have a supply of nervous influence proportional to the activity of its function, and the quantity of blood it receives, and therefore, in this respect, would present an anomaly. Still, the brain would not, even in this respect, be an anomaly, if it be true, as it is generally supposed to be, that "the sympathetic is limited to the trunk and head, and that it has no connexion, or at least a very limited one, with the extremities." (See Todd and Bowman's Physiological Anatomy.) The author observes that Mr. Swan has described branches of nerves, with ganglionic enlargements upon them going to the joints, (one being particularised proceeding from the musculo-spiral to the wrist-joint;) from which he (the author) concludes that, as these parts have neither sensation nor motion, these nerves must be for secretion, and consequently sympathetic nerves. Connecting the fact, and the deduction from it, with the following one, noticed by Todd and Bowman, (that two distinct fascicles connect the sympathetic with the spinal nerves, near to the spine, one consisting of white, the other of grey or sympathetic fibres; though of the precise object of the latter bundle, they express themselves incapable of forming a precise idea,) he infers that the fasciculi of grey fibres which join the spinal nerves in this situation afterwards follow them through their various plexuses, accompany their branches to all parts of the body, and ultimately leave them to be distributed to the various organs of secretion situated in the extremities; such as to those secreting the sweat, sebaceous matter, synovia, &c. He states that these have hitherto been considered as branches of the spinal nerves from which they appear to proceed, whilst, in reality, they are sympathetic nerves, taking their origin from the spinal ganglia, by the grey fasciculi above referred to. In a postscript, the author states that he has dissected this branch of the spiral nerves, examined it with the microscope, and found it to be composed of organic nerve-fibre.

Mr. Solly protested against the view taken by the author of the paper, that a serous membrane was not required to envelop the brain because that organ was motionless. The motion observed in the fontanelle of the infant showed the incorrectness of this opinion, as did the fact, that in old age inflammation of the brain might result from a blow without fracture of the skull, in consequence of the brain being too small to fill up the cranium. The remaining space was filled with serum.

Dr. Hodgkin spoke of the history of Mr. Rainey's researches, which he had witnessed. The fact of the arachnoid being freely supplied by filaments from the sympathetic did not preclude it from being classed amongst serous membranes, as the peritonæum and pleura were supplied by the same nerve. He then briefly enumerated all the important points which he considered Mr. Rainey's researches to have established.

Mr. Holmes Coote had examined the arachnoid of animals under the microscope, and had detected nervous fibres which appeared to arise from the sympathetic. He had not found this to be the case in the arachnoid of the human being, though the pia mater contained filaments of that nerve. He thought, with Mr. Solly, that the arachnoid was really a serous membrane; but he doubted whether the membrane was continued into the ventricles, or pressed over the choroid plexus. These he thought were lined by the pia mater.

Mr. Toynbee thought that the researches

of Mr. Rainey had thrown great light on the mode in which the sympathetic communicated with the cerebro-spinal nervous system; and he believed that Mr. Rainey was the first to show the mode in which the sympathetic fibres pass into the branches of cerebro-spinal nerves, and from thence to their distribution.

Mr. Paget expressed his surprise at the statement of the last speaker, that the paper just read contained the first published account of the true mode of communication between the sympathetic and cerebro-spinal nervous systems, and the first explanation of the mode in which the sympathetic fibres pass into the branches of cerebro-spinal nerves, and proceed with them to their distribution; inasmuch as it had been for the last four or five years, through the observations of Bidder and Volkmann, notorious that, except the nerves of special sense, all, or the great majority of the cerebro-spinal nerves, contain, mingled with their own filaments, a proportion of sympathetic filaments; and the mode in which the two kinds of filaments become mingled had been not less accurately determined. He thought it was to be regretted, that by discussing this matter, the author had distracted the attention of the Society from the better part of his essay, in which he described the nerves of the arachnoid. Having been favoured with an opportunity of examining Mr. Rainey's preparations, he could in nearly every respect confirm his description of them. Nothing could be more evident than the existence of an abundant plexiform distribution of nerves of the sympathetic system in the arachnoid. As represented in the diagrams suspended in the room, these nerves could be plainly traced proceding from the cerebral and spinal vessels, and ramifying and communicating in the arachnoid and the filaments connecting it with the pia mater. Moreover, in several instances, where three or more bundles of nerve-filaments converged and met, there was seen, in the middle of their conflux, a single large corpuscle, which could only be compared to a ganglion corpuscle. And if it were so the author had herein made a very interesting discovery; for though Purkinje described the nerves of the arachnoid, he made no mention of corpuscles such as these; nor was there any other instance known in which to constitute a ganglion, only one corpuscle was imbedded among the nerve fibres. The bodies somewhat like Pacinian corpuscles, were also distinctly to be seen; but these might be products of disease. But a doubt must still exist, whether the fine filaments which formed the greater part of the substance of the arachnoid were nerve-filaments or not. There certainly was an appearance often seen and shown in the diagrams; one of the nerves suddenly broke up into minute filaments, which were then so interwoven as to constitute almost or really the whole substance of the tissues; but these did not themselves look like nerve-filaments—they might be a variety of fibro-cellular tissue. And till this question could be decided, the author's idea of the ganglionic nature of the arachnoid could not be at once accepted. For if these fine filaments, which nearly composed the arachnoid tissue, were not nerve-filaments,—and on the whole it appeared more probable that they were not,—then, as to the nature of the arachnoid, it is proved only that it receives a far more abundant supply of nerves than any other serous membrane, and that with these nerves are peculiar, probably ganglionic, corpuscles situated at their points of conflux. Yet if only this portion of the author's observations were admitted, a very large share of credit would be due to him for both the accuracy and the importance of his research.

Mr. Toynbee explained that he wished to limit his observations to the mode in which the sympathetic was distributed to the extremities, as instanced in the ganglion of the wrist-joint mentioned by the author.

Mr. Paget explained that he had no doubt the author had really discovered the sympathetic filaments in the ganglion at the back of the wrist; but that he still maintained that the existence of sympathetic filaments, mixed with those of the cerebro-spinal nerves, and distributed to the extremities and other parts with them, was a fact which had been long and completely ascertained.

Dr. Copland said, that the connexion between the sympathetic and the true spinal system was known at least twenty-five years ago, the branches of the sympathetic having been then traced to the extremities; and more recently, the correctness of these researches had been confirmed. Even Winslow had traced the sympathetic as low as the femoral artery. What the author said respecting his discovery of the difference between the sympathetic and sero-spinal nerve was not just, as the distinction between them was evident to the naked eye; corpuscles were found in the ganglionic nerves, under the microscope, which were not to be found in the tubular nerves. He thought the chief point of interest in the paper was the new and important fact established by the author, of the free distribution of filaments of the sympathetic to the arachnoid, for the supply of the brain.

Mr. Rainey said that he was well awar that the sympathetic nerves had recently been described upon different structures in the extremities, as for instance, on the periosteum of the tibia by Purkinje, and that they had long been supposed to exist in these parts, but that it was his belief that anatomist had not supposed them to be given off from the

spinal nerves existing in the extremities, nor did he believe that the idea had ever occurred to any one, that the grey fasciculi described by Todd and Bowman, were the origin of these nerves, and that they afterwards followed the nerves of the extremities, as in the abdomen they followed the arteries, which serve to conduct them to their destination, these nerves appearing to be branches of the spinal nerves, whilst in reality they were from the sympathetic. In proof of the correctness of this supposition, he had only to state, that in all books on descriptive anatomy, the branch, to which he alluded in his paper, going to the wrist-joint, was described as a branch of the radio-spinal nerve, and not the sympathetic. Besides, when he told some anatomists that the branch in question was a sympathetic nerve, they were astonished, and would not believe it; and he did not doubt but if he had made the same remark to Mr. Paget before he entered this room, he would have expressed the same surprise as others had done.

## SOUTH LONDON MEDICAL SOCIETY.

Saturday, February 21, 1846.

EDWARD COCK, ESQ. IN THE CHAIR.

DR. ALDIS mentioned a case of constipation of three weeks duration, which he had seen that day, in a woman aged 46. It had commenced with diarrhœa and cramp in the abdomen, which was checked, and followed by constipation. Various purgatives, including croton oil, had been administered by the mouth, and in form of enema, without avail. The abdomen was now greatly distended and tympanitic, and the abdominal walls being much attenuated, the outline of the small intestines, and also their peristaltic movement, could be seen. There was no pain or hardness over any part of the abdomen; no constitutional disturbance. After the various remedies that had been tried, and on account of sickness, he had now ordered solution of ox-gall to be injected every four hours. He wished to hear the opinion of the Society on the case.

Dr. TODD then remarked, that he had intended to bring before the notice of the Society two cases this evening; the first of hysteria, and the second of constipation; he would now read the latter, as it was in some respects similar to the one just related. He wished to call attention to the plan pursued in the treatment, which he much preferred to the usual practice of administering active and drastic purgatives. A lad, æt. 14, after two days' constipation, was seized with nausea, vomiting, and severe pain in the right iliac region, the pain subsequently extending over the lower part of the abdomen. He had no evacuation from the 16th December to the 27th. His countenance was now anxious; vomiting stercoraceous; abdomen slightly tympanitic, but soft; slight pain over the cœcum, and at the ileo-cœcal junction; some hardness and dulness; no fulness in the loins. Pulse 98, full. Learning that purgatives had been freely administered, he determined to give calomel and opium, nourishment, and endeavour to act upon the bowels by enemata. A quart of warm water, with an ounce of castor and olive oil, was injected by the long tube; and calomel, gr. v., opium, gr. i. given night and morning. Arrow-root and wine in small quantities frequently. This plan was continued to the 1st of January, without relief; the abdomen became more tympanitic, but free from pain; he once vomited some yeast-like matter. Feeling now certain that the seat of obstruction was at the ileum, near its junction with the cœcum, he began to think of surgical interference, but resolved first to try the injection of air; this he considered would pass more readily, and diffuse itself, expanding under increased temperature. Air was injected on Jan. 1st, by means of a syringe, so as to fill the large intestines and the cœcum; the shape of the latter could be seen through the abdomen. The next morning, at 11 A.M. the boy had a large evacuation, which was repeated three or four times, after obstruction of sixteen days.

The author remarked on the tolerance of calomel in this case, a large dose having been given for five or six days, and no ptyalism; also the tolerance of opium, two grains being taken daily, without producing narcotic effects, or contracted pupil, it having kept the patient in comparative comfort. He dwelt on the importance of not depressing the vital powers, remarking that there is but little inflammation in such cases, the aim being to overcome mechanical obstruction.

DR. ALDIS remarked on the similarity of the early treatment in the two cases, and the failure of the purgative plan in both.

In reply to Dr. Barlow, Dr. Todd stated that the urine of his patient was scanty, but not remarkably deficient.

DR. SILVESTER related two cases of obstruction from different causes, one of which proved fatal, and, after death, the peritoneum was discovered strewed with fungoid tumors, one of which had fastened down the rectum, allowing nothing to pass, and had thus been the cause of death.

DR. CHEVERS observed, that the plan of inflation adopted by Dr. Todd had been recommended by a writer in the American Journal of Medical Sciences, and had since been employed with success by Mr. J. Gorham in the intussusception of children. The plan was to inject air by means of the

bellows. He trusted it was becoming an established axiom that purgatives are always highly injurious in cases of constipation, depending upon organic causes, where symptoms of inflammation, or gastric irritation, have made their appearance. It was, however, to be regretted that, at present, this rule is by no means invariably acted upon.

Dr. Barlow alluded to the success of different plans of treatment, and instanced a case where all the symptoms of peritonitis existed, and the patient recovered under the usual treatment; when, four months afterwards, the same enteritic symptoms were relieved by castor-oil, the recovery being as quick and easy as under the former plan. He thought the diagnosis of the seat of obstruction not very difficult, but not so with regard to the cause and nature.

Dr. Todd remarked, that he did not altogether condemn the use of purgatives, he only objected to the usual plan of increasing their strength; he regarded them rather as exploratory. If any inflammation existed, mercurial action was useful, and, on the appearance of ptyalism, obstruction usually gave way.

Dr. Barlow alluded to the injection of tartar emetic in solution, as suggested by Dr. Munk.

Mr. Waterworth remarked on the value, in ordinary cases of constipation, of mild purgatives, with tonics, and the occasional use of opium.

Dr. Silvester alluded to the use of quinine combined with aperients, and

Dr. Chevers advocated the plan of giving the sulphate of zinc, in large doses, in habitual constipation depending upon loss of tone in the muscular tissue of the colon. The zinc, after a time, produces free evacuations, and appears to act as a local tonic to the part.

The conversation then turning on the tolerance of sulphate of zinc, and other remedies,

Dr. Todd said he was now giving twelve grains three times a day in a case of epilepsy without any bad effects.

At the next meeting, March 5th, Dr. Aldis will read a "Case of Aneurism of the Arch of the Aorta, with Symptoms of Diseased Heart."

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## ROYAL INSTITUTION.

Friday Evening, Feb. 20th.

### MR. ALFRED S. TAYLOR ON THE TEMPERATURE OF THE EARTH AND SEA.

After commenting upon the various theories respecting central heat, the lecturer proceeded to examine the grounds upon which it is assumed that there is a great source of heat within the interior of the globe. At a point varying in depth in this latitude from 70 to 80 feet, the thermometer undergoes no change,—the diurnal and annual variations of temperature are entirely extinguished,—thus proving that solar influence extends no further into the earth. Above this, which is called the invariable stratum,—solar heat is being continually conducted upwards and downwards, according to the fluctuations in temperature which take place on the surface. Below this stratum, the thermometer progessively rises in descending at the rate of about 1° for 50 feet of descent. This is proved by the examination of the temperature of mines, and the water of Artesian wells and springs, of known depth. To attain the same degree of temperature, it is necessary to go to very different depths in different localities, and on these differences are constructed what are termed isogeothermal lines, or lines of equal internal heat.

In no mine or Artesian water, yet examined, has the temperature risen above 99°. Evidence of the existence of a higher degree of heat than this is furnished by the examination of thermal baths and springs. The temperature of these varies from 66° to 212°. The hottest thermal spring in England is that of Bath, 117°. These thermal springs, which undoubtedly issue from great depths, are found all over the world, both on islands and continents. Evidence of the existence of a still higher temperature, is furnished by examining the products of volcanoes and the phenomena accompanying volcanic eruptions. The following conclusions were drawn respecting subterranean heat.

1. That at a certain depth below the surface of the earth, there is a source of heat which progressively affects the thermometer as we descend.

2. That this interior heat cannot be derived from the sun or from local chemical changes.

3. That it does not directly affect climates or seasons, or perceptibly influence the temperature of the surface of the earth, the depths of the ocean, or the atmosphere floating above them.

4. That the vicissitudes of climates, seasons, and cycles of years, are due entirely to solar influence.

5. That this influence even at a maximum, does not penetrate to a greater depth than 1-400,000th part of the earth's diameter.

6. That although we have positive evidence of the existence of subterranean heat, we can neither measure its degree nor determine its exact ratio of increase downwards into the interior.

7. That there is not the slightest evidence to show that the earth is gradually cooling, or that within the last 2000 years, its tem-

perature has undergone any increase or diminution.

## ROYAL SOCIETY.

Saturday Evening, Feb. 218t.

The first soirée took place at the house of the President, the Marquis of Northampton, on Saturday evening last. A large number of Fellows, including some of the most eminent men in the medical profession, attended. His Royal Highness Prince Albert was present during part of the evening. Among various subjects of scientific interest, we noticed on the tables,—some well-executed Daguerréotype etchings by Fizeau's process,—specimens of insects preserved by Mr. Goadby's antiseptic liquids—carvings of wood by steam power—and a working model of the compressed air engine, intended by the patentee as a substitute for the use of steam in locomotives.

## Correspondence.

### ON THE TREATMENT OF TRAUMATIC TRISMUS.

Sir,—In such a very formidable disease as the traumatic trismus, any remedy, whether local or constitutional, producing marked and decided benefit, appears to me to be well worthy of record. The temporary alleviation to spasmodic suffering which followed the local application of camphor, was, in the following instance of that disorder, very remarkable—too decided and remarkable, indeed, not to have left on my mind a firm conviction that it was a powerful auxiliary to the constitutional remedies which were had recourse to. A collection of the following opinions of Mr. Abernethy, which certainly express his belief that the ganglionic nerves take their share in producing the diseased phenomena, led to its application; for ample experience has taught me the power which this remedy possesses in controlling deep-seated disorders of irritation. In his Essay on the Constitutional Origin of Local Disease, Mr. Abernethy observes, "I wish, finally, to excite the attention of surgeons to the state of the bowels in tetanus: the occurrence of this disorder occasionally, when the wound which produced it is healing, seems to indicate that the effects which have been produced by its irritation continue. It has been, I think, fully shewn that local irritation may disorder the digestive organs; which disorder continuing and aggravating the affection of the sensorium, may possibly lead to the production of tetanus at a time when the wound is no longer irritable."

Your insertion of the following case in the Medical Gazette, would greatly oblige

Your obedient servant,

Henry George.

4, Hornton Villas, Kensington,
February 20, 1846.

Mrs. ——, aged 55, in the evening of December 31st, fell down a flight of steps upon a hard pavement. The height was about ten feet. She remained perfectly insensible for some minutes, and received a contused wound on the temple and forehead, which bled profusely. She was carried to bed, passed a confused and restless night, with severe general pains and repeated rigors. The next day was passed in very great discomfort. Took aperient medicine, which operated.

January 2d.—She felt a little better. On the 3d she again took aperient medicine, which operated, but she felt very restless and uncomfortable.

5th.—Had passed a very restless night; awoke with intense pain in the right side of the face, and felt as if the lower jaw had been wrenched out of its socket, but she could open her mouth. On the 7th she became in every way worse, and on the 8th she applied to me for assistance. Her jaws were perfectly closed; her pulse was 130; she complained of acute pains in the chest, at the back of the neck, and through the whole length of the spinal cord and shoulders. The act of swallowing was most singularly distressing. Her intellects were clear; her wounds healthy. She has lost two teeth in the lower jaw, which fortunately will enable her to take both food and medicine; of the latter I ordered the following:—

℞ Calom. gr. iv.; Argent. Oxyd. gr. j.; Ext. Col. c. gr. xii. M. et divide in pil. iv. Sum. ij. statim et post hor. vi. repet. cum haust. sequent; haust. sal. cum pulv. Doveri, gr. vj.

January 9th. — Passed a very restless night; symptoms nearly as yesterday; the jaw, if possible, more rigid and painful. Nourishment to consist of good broth, wine, brandy, &c.

Calomel, gr. ij.; P. Ipec. c. gr. v.; Argent. Oxyd. gr. j. M. ft. pulv. 3tis horis. A saline purgative to be given an hour after the third dose.

9 o'clock P.M.—Bowels have operated very copiously; the motions almost black; expresses herself relieved by them, but appears much the same. The jaw is immoveable, and the agony from the violence of the spasm very great; the pain extending to the clavicle. Pulse not so rapid, about 120. I directed a piece of flannel, large enough to envelope the whole abdomen and loins, to be soaked in the following embrocation:

—Camphor, ʒj.; Sp. Vin. R. ʒij.; and ordered the following medicines, the diet to consist of wine, beef-tea, &c. :—

℞ Liq. Potass, ♏xx.; Decoct. Cinch. ʒiij.; Sp. Ether. N. ʒj.; Acid. Hyd. ♏iij.; Liq. Opii Sed. ♏iv.; Liq. Arsen. ♏j.; Aq. Cinn. ʒj. M. ft. haust. 6tis horis cap. c. pil. sequent.

℞ Calomel, gr. ss.; Argent. Oxyd. gr. j.; Ext. Col. gr. iij. M. ft. pil.

℞ Mag. Sulph. ʒij.; Tinct. Senn. et Tinct. Rhei, c. aa. ʒiij.; Infus. Rhei, ʒj. Ft. haust. mane.

Jan. 10th.—Has had some sleep; is perfectly free from pains in the chest and back; considerable relaxation of spasm in the jaw. I can easily introduce my forefinger between the teeth; can swallow with much less suffering; pulse about 110; one copious dark bilious motion.

Contin. haust. ton. et pil. 6tis horis.

℞ Calomel, gr. ij.; Ext. Col. c. gr. vj. ft. pil. h. s. s. The saline purgative in the morning.

Jan. 11th.—Passed a sleepless night; jaw firmly closed; still she has less general pains than yesterday. I again applied the camphor, continued the same medicines and diet, increasing the quantity of wine.

Jan. 14th.—I can again introduce with ease my forefinger into the mouth; is free from general suffering, but perspires most profusely, and the heat of skin is excessive. Complains much of debility; mercurial fœtor very evident. No alteration in medicine or diet has been made since the 11th. Pulse very quick and weak.

℞ Acid. Sulph. D. ♏xxv.; Tr. Lyttæ, ♏xx.. Liq. Opii Sed. ♏xv.; Dec. Cinch; ʒiij.; Tr. Card. c. ʒvj.; Aq. Cinn. ʒij. M. ft. mist. 4 part. 6tis horis c. pil.

℞ Argent. Oxyd, gr. jss.; Pulv. Rhei, q. s. ft. pil.;

℞ Pil. Sap. c. Opio, gr. iv.; Quin. Dis. gr. ij. ft. pil. h. s. s.

Jan. 16th.—The sweating continues, but upon the whole she is much better. Debility excessive; the jaw more relaxed; pulse about 90. To continue the medicine prescribed on the 14th. The purgative has been continued daily. I have increased her allowance of wine.

Jan. 17th.—Is free from sweating: the heat of skin natural; jaw much more open; pulse about 88; the camphor has been applied daily.

℞ Ext. Cinch. gr. viij.; Dec. Cinch. ʒj.; Tr. Lytt. ♏v.; Liq. Arsen. ♏ij.; Liq. Opii Sed. ♏iv.; Tr. Card. c. ʒj.; Aq. Cinn. ʒij. ft. haust. 6tis horis, haust. purg. mane.

Jan. 19th, 9 o'clock, A.M.—Has passed a very comfortable night, and is in every respect much improved.

9 o'clock P.M.—The medicine has operated six times, producing great distress. Fell into a troublesome sleep, and awoke with sense of stiffness and great pain through the whole length of the spinal column, particularly the lumbar vertebræ. Jaw again closed; great sense of weight in both arms, with a pricking sensation in them. Pulse very rapid. I continued the bark again, applied the camphor, discontinued the laxative, and ordered the following pills :—

℞ Quin. Dis. gr. ij.; Pil. Sap. c. Opii, gr. vj. ft. pil. ij. stat. sum.; and applied a strip of the Belladonna plaster the whole length of the spinal column.

Jan. 20th.—Has had five hours' sleep; is free from pain; pulse about 90. To continue the medicine and diet as yesterday, but omitting the night pills.

Jan. 31st.—In every respect very comfortable; pulse about 70.

Feb. 9th.—The same medicine has been continued to this day, and my patient is convalescent. On the 5th and 6th of Feb. a most violent headache followed relief from the bowels, and was quickly relieved by the application of camphor to the abdomen.

Remarks.—In this case the relief obtained by the local application of camphor has been in no way exaggerated; each successive application (and there were many) produced the same comfort. It is scarcely necessary to point out the vantage ground obtained by the perfect lull produced in the complicated symptoms and sufferings which were threatening the approach of tetanus, and by so doing affording an opportunity for remedies (certainly not inert) to exert their influence on the constitution. Those violent headaches, too, which twice followed the action of the purgative, I feel myself justified in believing were relieved by the application of camphor to the abdomen and loins: a circumstance which does not militate against Mr. Abernethy's suspicions, certainly. These headaches were very serious, and on the last occasion the headache was accompanied with great and sudden decrease of the heart's action; the pulse fell to about 50. The oxide of silver, a power which, I presume, could not be used indifferently, was selected more from the convenience of its form than from a belief that it possesses any remedial powers in greater force than the nitrate of the same metal. Whether the specific effects of the calomel assisted in producing any alleviation of disease, I am not prepared to decide; but this is certain, that they produced no aggravation of symptoms. Dr. Parry, of Bath, placed some reliance on the constitutional effects of this remedy, but his cases were almost uniformly fatal.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, Feb. 14.*

| Births. | Deaths. | *Aver. of 5 yrs.* |
|---|---|---|
| Males.... 709 | Males.... 449 | Males.... 491 |
| Females . 666 | Females . 462 | Females . 472 |
| 1375 | 911 | 963 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Winters; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES | 911 | 1080 | 967 |
| SPECIFIED CAUSES | 908 | 1073 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* | 173 | 183 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat | 87 | 115 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses | 145 | 169 | 157 |
| 4. Lungs, and other Organs of Respiration | 278 | 363 | 294 |
| 5. Heart and Blood-vessels | 38 | 30 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion | 71 | 69 | 72 |
| 7. Diseases of the Kidneys, &c. | 6 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. | 7 | 12 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c. | 13 | 7 | 6 |
| 10. Skin, Cellular Tissue, &c. | 2 | 2 | 2 |
| 11. Old Age | 45 | 90 | 67 |
| 12. Violence, Privation, Cold, and Intemperance | 43 | 27 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox | 6 | Convulsions | 31 |
| Measles | 26 | | |
| Scarlatina | 24 | Bronchitis | 55 |
| Hooping-cough | 57 | Pneumonia | 56 |
| Typhus | 24 | Phthisis | 138 |
| | | Dis. of Lungs, &c. | 6 |
| Dropsy | 9 | Teething | 3 |
| Sudden deaths | 11 | Dis. Stomach, &c. | 4 |
| | | Dis. of Liver, &c. | 12 |
| Hydrocephalus | 30 | | |
| Apoplexy | 30 | Childbirth | 6 |
| Paralysis | 23 | Dis. of Uterus, &c. | 1 |

REMARKS.—The total number of deaths was 169 below the winter, and 56 below the annual average. The most fatal disease now prevailing in the metropolis is Hooping-cough, the deaths from which are much above the averages of the season and years. In all the districts, the mortality was below both averages.

## METEOROLOGICAL SUMMARY.

Mean Height of Barometer ..... 30·06
„ „ Thermometer[a] ..... 36·2
Self-registering do.[b] ..... max. 50·8 min. 15·
„ in the Thames water. — 44·2 — 37·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·0: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was, owing to the great cold of Tuesday (the 10th), nearly 2° below that of the mean temperature of the month (38°). The extreme hebdomadal range in the self-registering theremometer, was 35·8°.

## BOOKS RECEIVED FOR REVIEW.

Brett's Urinary Tables.—Chelius's Surgery, by South, Parts 9, 10.—London Medical Directory.—Phrenology, its Nature and Uses.—Address to the Students of Anderson's University, Glasgow.—Ranking's Half-Yearly Abstract of the Medical Sciences, July to Dec. 1845.—Teale on Hernia.—Dr. Corrigan on Famine and Fever in Ireland.—Sharpey and Quain's Anatomy, 5th Edit. Part 2.—India Journal of Medical Science, Dec. 1845.—Fergusson's Practical Surgery, 2d Edition.—Miller's Practice of Surgery, Edinburgh.—Transactions of Provincial Med. and Sure. Association, Vol. 14.—Taylor's Manual of Medical Jurisprudence, 2d Edition.—Swan on the Physiology of the Nerves of the Uterus.—Annuaire de Thérapeutique, 1846, Bouchardat, 2 tom.—Annuaire de Chimie, 1846, Millon et Reiseh.—La Clinique des Hôpitaux des Enfants, Janvier, Vanier et L. Dumont.—La Température chez les Enfants, par le Dr. H. Roger.—Dr. W. Kramer, Beiträge zur Ohrenheilkunde.— Taschen, Encyclopædie der Medicinischen Wissenschaften Anatomie, von Dr. A. von Behr.—Die specielle Pathologie und Therapie, von Dr. C. Caustatt, 1845.

## NOTICES TO CORRESPONDENTS.

We are obliged to Mr. C. Pooley for the cases which he has forwarded to us. A letter will be sent with the proof.

Dr. T. Mayo's remarks on the Plea of Insanity will be published without delay.

We shall be happy to give the additional Cases of Oxaluria, referred to by Dr. Shearman, and regret that, owing to the present number being completely filled before his last communication reached us, we have not been able to insert it this week.

The case of Popliteal Aneurism, forwarded to us by the Director-General of the Army Medical Department, shall be inserted in the next or following number.

The space occupied this week by Proceedings of Societies has compelled us to postpone several communications.

Dr. W. Kramer's work, "Beiträge zur Ohrenheilkunde," has been received, and will shortly be noticed.

In our next number, we shall publish a Clinical Lecture by Sir Benjamin Brodie.

Mr. G. M. Davis's case (Liverpool) will be given.

Mr. Phillips's contribution has been unavoidably deferred until our next number.

*Received.*—Dr. Dick.—Dr. Shearman.—Dr. Smith. Mr. Pooley.—Mr. E. Copeman, No. 2.—Dr. Glover.—Dr. Thomas Mayo.

In a few days,

THE HUNTERIAN ORATION.

By W. LAWRENCE, F.R.S.

London: John Churchill, Princes Street, Soho.

POTATO DISEASE and the NEW SETS.—The evidence already collected on this unfortunate subject is given in the "GARDENERS' CHRONICLE" of Saturday last. The "GARDENERS' CHRONICLE," edited by Professor LINDLEY, may be had by order of all Newsvenders, price 6d. stamped to go by post.—Office for advertisements, 5, Upper Wellington Street, Covent Garden.

In small 8vo. price 9s. containing 710 closely-printed pages,

THE PRACTICE of SURGERY.

By JAMES MILLER, F.R.S.E. Professor of Surgery in the University of Edinburgh, &c. &c.

Uniform with the "Practice," price 9s.

THE PRINCIPLES of SURGERY.

A. and C. Black, Edinburgh; Longman and Co. London.

On Monday next, March 2, will be published, in 1 volume, large 8vo. with Notes and Coloured Plates, price 18s.

A NEW TRANSLATION of LAENNEC'S TREATISE on MEDIATE AUSCULTATION and Diseases of the Chest. Edited by T. HERBERT, M.D.

London: Longman, Brown, and Co.

## Lectures.

### LECTURES ON DISEASES OF THE KNEE-JOINT;

By Sir B. C. Brodie, Bart.

#### Lecture II.

ON INFLAMMATION OF THE SYNOVIAL MEMBRANE OF THE KNEE-JOINT, Continued.

*Delivered in the Theatre of St. George's Hosptal, January* 14, 1846,

I spoke to you in the last lecture of cases of inflammation of the synovial membrane of the knee. I described the general history and progress of that disease, and the treatment of it in ordinary cases. Some further observations, however, are required, in order that I may complete the subject.

After inflammation of the synovial membrane has subsided, the joint is left in different conditions. In slighter cases it retains its natural degree of mobility; in others it is more or less stiff afterwards; and in a certain number of cases it is completely anchylosed. The last result takes place when the cartilages have been extensively ulcerated, whether with or without the formation of matter.

Where the joint retains its natural degree of mobility, of course no further treatment is required; but where it is left more or less stiff, it is for you to consider whether anything can be done with a view to restore the mobility of the articulation. I am a little afraid of interference in these cases: for if much liberty be taken with the joint in the way of friction or shampooing, a return of the inflammation is not improbable, and a second attack of it will leave the joint much more stiff than the first. Besides, where there is any degree of motion, I have observed that if the patient continues to walk about, and otherwise exercises the joint in the ordinary manner, its natural mobility is for the most part ultimately regained, without any special treatment being had recourse to for that purpose. However, where a considerable time has elapsed without this result having been obtained, and there is no reasonable chance of the recurrence of inflammation, you may try what friction and shampooing, combined with the vapour bath, will do for your patient.

In some instances, after the inflammation has subsided, the joint is left not only with considerable stiffness, but with the leg in a half-bent state. It is very important to bring the leg into its natural position: *first*, because you thus do what you can towards preventing anchylosis; and, *secondly*, because if the patient recovers with anchylosis, to have the leg bent is a very great evil, while anchylosis with the leg nearly straight is a comparatively trifling inconvenience. In such a case, that is, where the leg is bent on the thigh, an apparatus may be employed for the purpose of straightening it. This consists of a splint fitted to the back part of the thigh, and another fitted to the back part of the leg, with a hinge between them in the ham, and a screw behind, by which the splints may be gradually separated from each other. The splints are made of metal, secured by straps passing round the thigh and leg, and over the patella. This instrument, which is well known to the principal instrument-makers in London, admits of very gradual extension. When the leg has been much bent, it may take six or even twelve months to make it perfectly straight; while, in other cases, all that is required may be accomplished in the course of a few weeks.

I have mentioned already that the inflammation may, under certain circumstances, though this is not a common occurrence, terminate in suppuration. But further observations are required on this point. There are many cases in which the patient labours under chronic inflammation of the synovial membrane of the knee, not only for months, but even for years. A poor man comes into the hospital with this disease; he is relieved, supposed to be well; he leaves the hospital, resumes his usual labours, exercises the joint too much or too soon, and the inflammation recurs. He continues to work as long as he can, then returns to the hospital; is again reported to be cured; but on his again using the limb the disease again recurs. In this manner the disease may exist, sometimes better and sometimes worse, for a very long period; and at last will end not only in ulceration of the cartilages, but in suppuration. An abscess may present itself in one place, and then in another. Such abscesses are slow in coming forward; forming circuitous sinuses. When opened they never thoroughly empty themselves, and therefore heal with difficulty. The patient's health suffers; there are perspirations at night; he loses flesh; experiences sometimes a great deal of pain, sometimes but little; and, under these circumstances, you are compelled at last to amputate the limb, as being a smaller evil than the loss of life.

Abscess of the knee-joint from inflammation of the synovial membrane may take place in another way. To this I adverted in my last lecture, but it requires further explanation. There is an attack of violent inflammation, which goes on at once to sup-

puration. When called to the patient, you find him suffering a great deal of pain; the joint swollen, full of fluid; the pulse very frequent; and perhaps there are rigors. You apply leeches and blisters to the joint, but there is no absorption of fluid, as under ordinary circumstances, and no relief of the symptoms. On making a puncture with a grooved needle, there is an escape not of serum but of matter, of which, indeed, the joint is full. Inflammation of serous membranes generally terminates in effusion of serum and lymph, but in very severe cases it terminates in an effusion of pus. Thus pleuritic inflammation produces empyema; and in like manner suppuration sometimes occurs as the immediate consequence of inflammation of the synovial membrane. These cases are entirely different from those protracted ones which I just now described, and they are much less unfavourable. In the former, matter forms in different places, and there are perhaps many abscesses in various parts of the joint; but here the whole joint is full of matter,—it is one large abscess. The treatment is sufficiently simple. Make an opening as soon as you can, and let out the matter. But what kind of opening? Not a small or valvular one. I really think that there never was a more absurd proposal than that of making a small and valvular opening for such large abscesses. A small and valvular opening will not allow all the matter to escape; it heals directly, and the matter is again collected. All large abscesses, and those of joints especially, should be opened by a very free incision, so that the pus may flow out without squeezing, or any kind of rough manipulation. I know that mischief sometimes arises from opening a large abscess; but I also know that it is generally from the fault of the surgeon. If a small opening be made, it is only by squeezing and pressure that the abscess can be emptied of its contents; and this rough treatment induces inflammation of its parietes. Not unfrequently it causes also a discharge of blood from the small vessels, which, mixing with the pus that is secreted, afterwards becomes putrid; and I need not occupy your time at present by describing the ill consequences of a putrid abscess. There should not be the pressure even of a finger on the abscess, with a view to force out its contents. Make a free opening, let the matter flow of its own accord, at the same time keeping the joint in a state of absolute and complete repose by means of leathern splints, or by supporting it with pillows and cushions, and it will scarcely ever happen that any mischief follows. If the first opening be made in a depending part, it may be all that is wanted. It may be, however, that one or two openings will be required in other situations afterwards. By pursuing this plan of treatment, and very gentle management so far as your hands are concerned in it, you will generally succeed in preserving the limb. In these cases the disease has its origin in the soft parts. The bones are in the first instance in a healthy state, and the progress of the disease is so rapid, that, although deprived of their cartilages, there is not time for the bones to become materially diseased afterwards: and this explains why there is so much better chance of preserving the limb where there is this kind of abscess in a joint, than where such an abscess occurs under other circumstances.

Of course, after this extensive suppuration, which is always attended with a total absorption of the articular cartilages, no better recovery is to be expected than that by anchylosis; but this is a good recovery, for the limb will be very useful afterwards. Some months may elapse before the limb will be in a fit state to bear the weight of the body; and during the greater part of this time it will be necessary to keep the joint supported by splints. These may be the common leathern splints, unless the leg be bent on the thigh, in which case it will be necessary to have recourse to the screw instrument, with the splints at the posterior part of the leg and thigh. In using the screw, however, you should observe that it is better to leave the leg a very little bent on the thigh rather than quite straight. The former position of the leg is more convenient for walking than the latter, especially if the patient has the heel of his boot or shoe a little raised.

Besides those which I have already mentioned, there are some varieties of inflammation of the synovial membrane, which, as they affect the knee, deserve to be noticed; although, instead of being confined to that joint, they attack many, or even all the joints in the body, either at the same time or in succession. A patient has a discharge from the urethra like that of gonorrhœa, and generally to be traced to infection. The gonorrhœal symptoms continue, and a few weeks afterwards he complains of pains in the joints, with effusion of fluid into their cavities. Sometimes, in addition to the inflammation of the joints, there is a purulent ophthalmia. The degree of inflammation in the joint varies much: sometimes it is intense, with great suffering, confining the patient to his bed; while, at other times, it scarcely interferes with his usual habits. Where the inflammation is acute in the first instance, it assumes the chronic character afterwards. Not unfrequently, in addition to the effusion of serum, there is an effusion of lymph, causing stiffness of the joints; and occasionally, but not very often, the disease goes so far as to produce ulceration of the

cartilages, with violent pain and starting of the limb, and terminating in anchylosis. Sometimes, in the early part of the disease, the patient suffers from purulent ophthalmia; and in the more advanced stage there is another not less formidable complication, namely, that of inflammation of the iris. There is a peculiar liability to the disease in some individuals, one attack following another at uncertain intervals; some of them evidently arising from gonorrhœal infection, while others are as evidently independent of it.

This gonorrhœal inflammation of the synovial membrane, if I may be allowed so to call it, may exist in all degrees of severity, and it is a most intractable form of the disease. I scarcely know any remedies that have any dominion over it. When the inflammation is violent, blood may be taken away by leeches and cupping; fomentations may be employed, and aperients and colchicum exhibited; in fact, such remedies as those used to abate the violence of inflammation under other circumstances: but you never succeed in cutting short the disease. When the acute symptoms have terminated in those of chronic inflammation, it has appeared to me that the iodide of potassium, given internally, is of more use than any thing else. But even this is of doubtful efficacy. In fact I believe that we very rarely cure the patient in these cases, though the disease ultimately wears itself out. If there be any thing that is of much service, it is the patient going into a warmer climate—the West Indies, the South of Italy, or the Mediterranean. I have known several persons who, after much suffering in the manner I have described, have recovered on going to the south of Europe, and some of them, on coming back to England, have had a return of the articular inflammation.

Another form of inflammation of the synovial membrane, which requires a special notice, though not often met with in the hospital, is not of unfrequent occurrence in private practice. It is, indeed, one of the many penalties that individuals pay for the advantage of belonging to what are called the better classes of society. We meet with it among those who live too well, who drink more than a wholesome quantity of wine, indulge too much in the use of animal food, and lead a lazy and luxurious life; whose mode of life, in short, is such as to generate in them the gouty diathesis, but still who are not liable to regular fits of gout. It is a chronic disease, coming on insidiously and advancing slowly. The patient first complains of one of the joints of one of his fingers being a little painful, and somewhat stiff and enlarged. By and by another joint of a finger or thumb becomes affected in the same manner; then others in succession; then some of the other joints, and more especially the knees, which, from the peculiar circumstances under which they are placed, are more liable than the majority of them to take on disease. In these cases there is this peculiarity; that for the most part there is but little fluid collected in the affected joints, indeed sometimes none that is perceptible; but the synovial membranes gradually become more and more thickened, and the joints therefore more and more stiff. In the course of time, that is after the lapse of some years, the cartilages, and even the bones, become absorbed; the fingers being actually shortened and twisted in a variety of ways. Not unfrequently, in cases of long standing, the bones of the knee, examined in dissection, present a singular appearance, as if they had been actually worn away by friction; and in fact they are so worn away, but as a process of repair has been going on at the same time, instead of the cancellous substance being exposed where the friction has taken place, they present a hard and compact surface. In some instances there is a deposit of lithate of soda, or chalk-stone, in the joint itself, and in its neighbourhood. This, like the last, is a very troublesome form of the disease, and is very little under the dominion of remedies That which, on the whole, I have found to answer best, is the exhibition of very small doses of the acetous extract of colchicum—say a single grain, with the same quantity of blue pill and three grains of extract of hop, every night at bed-time, with a gentle aperient once in three or four mornings. You may exhibit these pills for a fortnight, stop them for one or two months, then give them for a fortnight again, and so on. At the same time give a grain and a half or two grains of iodide of potassium, with ten or twelve grains of the bicarbonate of potash, twice daily, and let this be persevered in for six or eight weeks at a time. This system may be continued, with occasional intermissions, for one or two years, or even longer. I have seen several cases where the patient has been much benefited by it, but in others I must acknowledge that neither what I have now recommended, nor any other treatment, has had really any dominion over the disease. This chronic gouty affection (for so I may call it) is not in itself dangerous, but it indicates a bad state of constitution; and persons thus affected are liable to other diseases.

*Scrofulous disease of the knee-joint.*

The next disease of the knee in order of frequency, and that to which I shall now call your attention, is the one which I have described under the name of scrofulous disease of the joint. I shall pursue the same course

here that I did in speaking of inflammation of the synovial membrane; that is, I shall first describe the progress of the disease as exhibited by dissections, then the symptoms, and lastly, the treatment which is required.

The opportunities of examining this disease by dissection are very frequent. Sometimes in a single subject it is found in every stage of its progress. The disease having gone on to great mischief in one knee, the child dies, and on examining the other joints many of them are found affected; some of them where there had been no suspicion of disease before death. The malady has its origin in the bones. There appears at first to be a disease of the cancellous structure; of which the most marked effect is a deficient secretion of earthy matter. The bone is become soft, so that it may be cut with a knife. In the first instance it is of a redder colour than natural, from increased vascularity, and there is an effusion of serum into the cancelli. As the disease advances the bone becomes less vascular, and instead of being red it becomes of a yellow colour, from the deposition of a yellow cheesy unorganised matter. At last there is scarcely a vessel carrying red blood to be seen. The drawing on the table, representing a section of the knee-joint, shews the appearances which I have just described very distinctly.

These changes in the condition of the bones are folllowed by other changes which affect the cartilage. The surface of the bone to which it is connected is more vascular than natural, and the vessels may be seen, in certain cases, extending from it, and carrying red blood into the substance of the cartilage itself. The appearance is quite distinct; I have seen it several times, and it has been observed by Mr. Mayo and Mr. Liston. I believe there is a preparation showing this condition of the cartilage in the museum of King's College. At this period the cartilage seems to adhere rather less firmly to the bone than under ordinary circumstances. It may be peeled off in a way in which this could not be done while the parts are in a state of health, and when it is removed spots of ulceration are observable on the under surface, where it was in contact with the bone. In the space between the ulcerated surface of the cartilage and the bone, there is a deposit of a small quantity of very vascular lymph. Ulceration being once established, it goes on, extends through the cartilage in one spot, and that spot afterwards increases in diameter. The same thing happens in other parts of the cartilage, and ultimately the ulcerative process destroys the whole of it.

In some cases of inflammation of the synovial membrane, the cartilage may be destroyed to a considerable extent without the occurrence of suppuration, and the same thing may take place here. For the most part, however, suppuration occurs at an early period. The deposit of pus does not take place in the whole joint at once. It does not become one large abscess, as in some cases of inflammation of the synovial membrane. There may be one collection of pus between one condyle of the femur and the corresponding surface of the head of the tibia; then another collection in some other situation, these different abscesses being separated from each other by deposits of lymph and adhesions. Hence, there may be two or three, or even more abscesses in the joint distinct from one another. Whilst these are being formed the ulceration of the bone advances, till at last a considerable quantity of it becomes absorbed. The abscesses steadily, but very slowly, find their way to the surface. The knee-joint is surrounded by many tendons; these are covered by fascia; there are ligaments within the joint, and ligaments external to it, and the consequence of this complicated structure is, that the abscess seldom comes directly straight to the surface. It runs first in one direction, and then in another, where there is the least amount of resistance, forming numerous and circuitous sinuses. When the abscess presents itself under the skin, the process of ulceration goes on but slowly, and it may sometimes be perceptible for three or four months, or even longer, before the final escape of its contents.

Here is mischief enough; but in some cases there is greater mischief still. I stated that the bone being more vascular than natural at first, afterwards becomes less so, and sometimes the vascularity is so far diminished, that the bone perishes. There is a portion of dead bone in the joint, which may remain attached to the living bone for a very long period; at last it separates, and then there is a fragment of dead bone lying loose in the joint, and of course making the case entirely hopeless.

This disease occurs in persons of that weak habit of body to which we generally give the name of scrofulous. Children are very much more liable to it than adults. It takes place in those who have a thick upper lip, fair complexion, blue eyes, dilated pupils, and light hair. Some have been threatened, perhaps, with disease of the mesenteric glands, and some of them die from hydrocephalus. In some instances the disease shows itself only in a single articulation; in others, it developes itself in many of them, either at the same time or in succession. It is very important to recognise the disease in its early stage, and this may usually be done by attending to what I am going to mention.

One remarkable feature of the disease is the absence of pain in the beginning. This is unfortunate in one respect, as it

leads to its being frequently overlooked at this period. The parents observe that the child limps a little in walking, but so little that they hardly notice it. The child makes no complaint, but by and by he limps a little more, and some day in taking off his clothes the knee is observed to be a little larger than natural, and not so moveable as it should be.

When a child experiences pain from even the most trifling disorder, the whole family is in a state of anxiety; but here, although there is a most serious ailment, as there is little or no pain, no anxiety is felt. The mistake is as common as it is natural, and it is not merely in the cases of children that those who are terrified by witnessing pain, though there is no danger, overlook danger where there is no actual suffering. However, obscure as the disease may be to others, if the child be taken to a surgeon at the period which I have mentioned, his practised eye should immediately detect the disease. The joint is generally a little bent, somewhat larger than it ought to be, and presents a rounded appearance. There is no pain on handling it, and no effusion of fluid into it. The enlarged and rounded appearance arises from a deposit of lymph and serum in the cellular membrane external to the joint, so that the disease must have made considerable progress before there is any considerable enlargement. The enlargement appears greater than it really is, from the child sparing the limb, and the muscles of the thigh becoming more or less wasted.

At this period of the complaint, although the leg is somewhat stiff, it nevertheless admits of a certain quantity of motion. If the disease be still neglected the swelling increases. As the cartilages begin to ulcerate, there is pain, and the ulceration of the cartilages, combined with the formation of matter, produces painful startings of the limb at night. The general health now begins to suffer. By and by an abscess shews itself on one side of the joint, and comes slowly forward; then another appears at a different part of the joint, and at last there may be three or four openings of sinuses leading to different parts of the knee. On introducing a probe these sinuses are very seldom found to take a straight course, but every now and then they do so, and then the surface of exposed bone is felt at the bottom. I mention this circumstance, but not with a view to recommend the probing of these sinuses. It is quite absurd to do so; such interference may be productive of a great deal of harm, and can do no good. The appearance of the knee, and the history of the case, give you all the information that is required in ordinary cases. It is very seldom that any examination with a probe is really necessary. This observation applies to many cases besides those which we are now more especially considering. I know no better proof of a man being a second-rate surgeon than his thinking it necessary on every occasion to torment his patients by probing sinuses.

When the joint has been destroyed by repeated abscesses the leg is thrown into a half bent state. The flexor muscles constantly acting on the head of the tibia, draw it backwards, and lodge it in the ham, producing that kind of dislocation which I described as occurring in some cases of protracted inflammation of the synovial membrane; the extent of the displacement varying according to circumstances.

Let us suppose the disease to have taken its own way, no treatment having been had recourse to, or that, although it has not been neglected, remedies have been of no avail: at last the patient suffers from a constant pain; he has disturbed, sleepless nights, becomes hectic, with a quick pulse, liability to perspirations, and the health gradually sinking. The disease may be the means of destroying life if the limb remains on, and yet the affection of the joint is never the immediate cause of death. Another disease arises out of it, and it is this secondary disease which directly leads to the fatal result. The knee-joint is not a vital organ; but disease of the knee, by affecting the general health, and depressing the powers of the patient, lays the foundation in a scrofulous patient of disease elsewhere. In one case there are tubercles of the lungs; in another, diseased mesenteric glands; in another, serous effusion into the ventricles of the brain; and it is generally from one of these affections that the patient at last sinks and dies.

I have taken my description of this scrofulous disease of the knee chiefly from what occurs in young patients; but the disease of the adult does not essentially differ in its symptoms from that in the child. The principal difference is this, that in the former the health suffers to a greater extent, and when suppuration has taken place there is little chance of saving the limb, whereas, in the latter, very many limbs admit of being preserved in spite of the formation of abscess.

The drawings on the table illustrate very well the appearances which it presents in the various stages of its progress. You will have the opportunity of inspecting them after the lecture is concluded. The museum contains a great variety of specimens of the disease, which you may also study with advantage. I cannot too strongly urge you to avail yourselves of the opportunity of studying morbid anatomy and pathology, which the museum of this hospital affords, not only with reference to the particular disease

which has been the subject of the present lecture, but also with reference to every other disease which is attended with an alteration in the structure of the body. It is a great privilege to have access to a museum of this kind. Except to those who live in London such an opportunity may never occur at any future period of their lives; and you may be assured that in a museum of morbid anatomy, with a good catalogue, you may acquire a quantity of valuable information such as can be obtained from no other source whatever.

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A COURSE OF

## LECTURES ON DENTAL PHYSIOLOGY AND SURGERY,

*Delivered at the Middlesex Hospital School,*

By John Tomes, Esq.
Surgeon-Dentist to the Hospital.

### Lecture VI.

*Eruption of the temporary teeth—Growth of the jaws—Eruption of the permanent teeth—The teeth an index to the age when between seven and thirteen years—Third set of teeth—Supernumerary teeth—Blood-stained and jaundiced teeth—Hereditary character of teeth—Form of the teeth and palate as necessary to voice and speech.*

Gentlemen,—At the conclusion of our last lecture we were considering the parts concerned in the development of the dental tissues. I shall again draw your attention to the subject of development for a few moments, and then pass to the eruption of the teeth.

Much has been written upon the membranes of the teeth. Mr. Bell divides them into deciduous and persistent. The deciduous membranes are two only; the two composing the dental sac. The persistent membranes are three in number. 1st, the lining membrane of the dental cavity, and the secreting membrane of the tooth substance; 2d, the periosteum of the root; and 3d, the periosteum of the alveoli. The periosteum of the maxillary bones was considered as the origin of the three persistent membranes. These views, which for many years were received as established, are now superseded by those advanced by Mr. Goodsir; which, I believe, have, to a great extent, been confirmed by subsequent investigations made by other anatomists.

In a former lecture, when tracing the analogy between the teeth and the mandible of birds and tortoises, I mentioned that there was considerable similarity in the mode of development. Mr. Owen has found that the bill of the tortoise is developed in separate parts, similar in form to the papilla of the teeth. The parts at first separate become confluent as the process of formation advances, so that at birth the papillary origin is no longer traceable.

*Eruption of the temporary teeth.*

The next subject for our consideration will be the eruption of the temporary teeth. Teething, as this process of nature is not uncommonly denominated, is alike interesting to the physiologist and to the medical practitioner. To the one the absorption of the gum and dental sac in making way for the growing tooth forms an interesting subject for observation; to the other, the time and the signs which precede and accompany the eruptions of the teeth are matters of interest, and an acquaintance with which enables the practitioner to answer the oft-repeated questions, "When should the teeth be cut? Why are they not? Will any harm come as a consequence of the late appearance of the teeth?" And a thousand other such questions suggested to the minds of anxious parents.

We have seen that as early as the sixth week of intra-uterine life dental development commences. From that period the growth of the dental apparatus, in common with the other organs of the body, steadily progresses. At a definite period of infancy, the teeth, unlike the other organs of the body, are perfected, and grow no more. Previous to the completion of the fang, the crown, which is already perfected, appears through the gum, after which the root is rapidly developed. But before the body of the tooth can assume its ultimate position in the alveolar arch the super-imposed gum must be removed. This action proceeds gradually and without any manifest inconvenience to the healthy infant, until the mucous membrane alone remains over the surface of the crown of the tooth, when slight symptoms characteristic of local irritation manifest themselves. These are not, however, invariably present; for it sometimes happens that teeth are cut without any attendant irritation, and their coming has been unobserved unless the tooth has passed through the gum. But the absorption of the gum is called into action; whether by the pressure of the tooth, or by the laws regulating development, and thus preparing a passage for the tooth so soon as space is required, is a point as yet undetermined. Prior to the appearance of a tooth the superimposed gum increases in breadth, becomes turgid, and feels hot to the touch. Accompanying these symptoms there is an increased flow of saliva, which constantly escapes

from the mouth; the child thrusts whatever may be placed in its hands to the mouth, and frequently bursts out in a fit of crying; when any foreign substance has come in contact with the gum. The breast is often suddenly relinquished, and again seized; in a word, we have just such symptoms as we should expect would arise from an irritable and sore gum. The child is more fretful than usual, and has sudden fits of crying, starts in its sleep, which is liable to be disturbed. The cheeks are occasionally flushed, the stomach and bowels are likely to become deranged also, as manifested by ejection of the food, or diarrhœa. A dry hard cough sometimes attends the eruption of each tooth. Even these symptoms of teething are, however, in some instances absent; a condition we should naturally expect, when it is considered that dentition, though frequently attended with suffering, is in itself a healthy action, and therefore when accompanied with perfect health throughout the body would necessarily be unattended with suffering. Dissection has shown that the papillæ of the milk teeth are not developed all at one time, but in succession, one following the other. From this we might suppose that the teeth would appear through the gum in the same order in which the papillæ appeared in the maxillæ. The temporary teeth do appear in pairs, but not in the same order, as the papillæ have been seen to take their respective places in the primary dental groove.

About the sixth, seventh, or eighth month after birth, the central incisors of the under jaw appear through the gum. These are in a week or two succeeded by the corresponding teeth of the upper jaw.

In a month or six weeks after the eruption of the central incisors we may expect the lateral incisors to make their appearance; those of the under jaw being evolved first. About the twelfth or fourteenth month the anterior molars of the under jaw are cut, and shortly afterwards those of the upper maxilla. The canines appear between the sixteenth and twentieth; and between the twentieth and thirtieth month the second milk molars pass through the gum. Thus, according to this statement, the twenty milk teeth are complete by the thirtieth month. You must not, however, expect to find in all instances this regularity either as to the time or order of the eruption of the teeth.

Authors do not, however, agree in their statements as to the time at which the various teeth are cut. I shall therefore direct your attention to the table, in which is arranged, under separate heads, the time at which each tooth appears, as stated by some of our best writers upon dental surgery. I premise, that the following are stated only as the average periods at which the teeth appear.

| Authors. | Central incisors. | Lateral incisors. | Canines. | First molar. | Second molar |
|---|---|---|---|---|---|
| | Months. | Months. | Months. | Months. | Months. |
| Fox . . | 6, 7, 8 extreme cases 4 to 13 | 7, 8, or 9 | 17 to 18 | 14 to 16 | 24 to 30 |
| Hunter . . | 7, 8, 9 | 7, 8, or 9 | 20 to 24 | 20 to 24 | 20 to 24 |
| Bell . . | 5 to 8 | 7 to 10 | 14 to 20 | 12 to 16 | 18 to 36 |
| Dr. Ashburner | 7th for the lower jaw 8th for the upper | 9th for the upper, 10th for the lower teeth | 16, 17, 18, 19, or 20 | 12 to 14 | 22 to 30 |

The temporary teeth are very rarely subject to irregularity either in position, number, or form. There are, however, cases recorded, in which the usual order was departed from. Dr. Brown, in the American Journal of Dental Surgery, mentions an instance which came under his own observation, in which the central incisors were through at birth. This occurred in a first child, and the teeth were extracted. Afterwards two other children were born, each with the central incisors of the under jaw through. The three children were girls, and in the two last the teeth were allowed to remain.

Many other instances have been described in which one or more central incisors were through at birth. Duval mentions two cases, a father and daughter: in each an incisor of the lower jaw was present at birth. The same author relates a case in which the central incisors never appeared. Fouchard speaks of a child who at six years of age had only a few front teeth.

There are two cases recorded, one by Boxalli, another by M. Baumes, in which the patient reached old age without a single tooth ever having appeared.

I am not aware that there is any well-attested case of malformation of a temporary tooth. We, however, sometimes see a condition somewhat analogous to malformation

in the lateral union of two teeth. Three cases of this kind have come under my observation within the last two years, in two of which the central incisors of the under jaw were laterally united, and in the third a lateral incisor and canine of the under jaw were united. The line of junction was marked by a shallow groove coated with enamel. Fouchard gives two cases in which there was union between the lateral incisor and the canine; in one instance in the teeth of the upper jaw, in the other in the teeth of the under jaw.

At present I have called your attention to dentition as it occurs in healthy children, unattended by any unfavourable symptoms; in a future lecture, the subject of interrupted dentition, with the concomitant disorders, will come under our consideration.

We have now traced the temporary teeth from their first appearance in the maxilla to their completion, when they become efficient organs of mastication and articulation. This state they retain, until, with the lapse of time, the jaw increases in size, and stronger organs of mastication become necessary; nature then effects their removal by withdrawing their support, in absorption of the fangs; the crown then having no hold on the jaw, falls out. The spaces thus left are speedily filled by the permanent teeth, which rise up from within the alveolus. We are accustomed to speak of the removal of the roots of temporary teeth as effected by absorption; however, there is but little known of the nature of this process. All we really know is, that the root is removed gradually, that the process commences on the surface of the root, and generally upon one spot only, from which it extends gradually till all the root is removed. Many writers, assuming that the tooth is absorbed by the adjoining tissue, attempt to explain how the action is produced; some believing that it arises from pressure on the temporary by the advancing permanent tooth; others, again, suppose that pressure has no such effect. The process of absorption of the fang of a temporary tooth usually commences on the surface near the apex, and produces as its first effect a small hollow; from this point the action spreads till the end of the fang has been exhausted; it then proceeds towards the crown until arrested by the edge of the enamel. The tooth having lost all hold upon the gum, falls out. We then see that even the crown has not wholly escaped the devastating force, for it is found to be hollowed out from within. In some instances absorption commences upon two points of the fang, and spreads from each. Such is the process when effected under the most favourable circumstances. But it not unfrequently happens that absorption commences high up the fang, producing partial removal only. In the meanwhile the permanent tooth advances, and occupies the space formed by the removal of the one half of the fang of the milk tooth. In such instances the absorption no longer continues in the remaining half of the temporary fang; the action is arrested, and the tooth is retained, slightly displaced itself, and slightly displacing the permanent tooth. This condition is more commonly met with in the canine teeth, though by no means uncommon in the incisors of the upper jaw. In the milk molars absorption goes on in the several fangs at the same time. How the absorption of the fangs of the milk teeth is effected, what is the nature of the process, or whether the process is really an active force exercised upon the tooth by the adjoining parts, or inherent in the tooth, remains at present to be determined. It is certain that if a milk tooth be dead the fang is not absorbed. From this it may, I think, be fairly assumed, that it is necessary that there should be vitality in the tooth for the absorption to go on. On the other hand, I have repeatedly observed, that the surface of the periosteum opposed to the wasting surface of the fang is highly vascular, and closely applied though inadherent to that surface. On removing a milk-tooth, where the whole of the crown has been removed, we find the crown excavated, and the excavation occupied by an unattached vascular papilla.

From these facts we are led to conclude, that not only must a tooth possess vitality, but also that the surface where absorption is to proceed must be unattached to but placed in contact with a highly vascular structure.*

Though we seem to possess some tolerably definite knowledge as to how the absorption of fluid matter is effected in organised bodies, namely, by imbibition, yet at present information is wanted as to the manner in which a solid living tissue is removed; and until this is gained our information on the subject of dental absorption will remain indefinite.

### *Eruption of the permanent teeth.*

The period destined by nature for the existence of the milk teeth having passed, and their removal having been effected, the succeeding permanent teeth take their place in the jaws. This period varies in the different teeth, and is subject to some little variety in every individual.

On entering upon the subject of the second dentition, we must bear in mind that the molar teeth are not preceded by tempo-

* Since writing this lecture I have seen a description given by Dr. Ashburner, in his work on Dentition, in which the vascular structure is considered as a special organ for absorption.

rary teeth, but are cut like the teeth of the first dentition, each molar passing through the gum so soon as, by the growth of the jaw, sufficient alveolar surface is afforded. The second dentition, in the majority of cases, commences about the seventh year, and proceeds in the following order:

| | |
|---|---|
| First molar . . | 7 years. |
| Central incisor . . | 8 ,, |
| Lateral incisor . . | 9 ,, |
| First bicuspis . . | 10 ,, |
| Second bicuspis . . | 11 ,, |
| Cuspidatus . . | 12 ,, |
| Second molar . . | 13 ,, |

The teeth of the lower jaw are commonly somewhat earlier by a month or two than those of the upper jaw.

At the sixth year the jaw contains both the temporary and the permanent teeth; the former in a perfect state, the latter partly formed.

In describing the development of the teeth the relative position of the two sets was noted; but I will again call your attention to them at this particular age, since by a knowledge of the relation of the two sets we are enabled to understand and to treat the irregularities which sometimes occur in permanent teeth. To use the words of Mr. Bell:—"The jaws at from six to seven years of age contain no less than forty-eight teeth; namely, twenty deciduous, the whole of which are perfected, and twenty-eight permanent, in different degrees of development, within the bones.

The following is the relative position of the two sets at this period. The permanent central incisor of the lower jaw is placed immediately beneath the temporary, with its point directed a little backwards behind the partially absorbed root of the latter. The lateral incisor, not yet so far advanced, is placed deeper in the jaw, and instead of being immediately beneath the temporary, is situated with its point between the roots of this and the cuspidatus. The permanent cuspidatus is still very deeply imbedded in the bone, with its point rising between the roots of the temporary cuspidatus and the first temporary molaris. The two spreading roots of the latter encompass as it were within their space the first bicuspis, and those of the second temporary molar in like manner the second bicuspis.

Nearly a similar arrangement is found to exist in the upper jaw, excepting that the teeth are altogether more crowded. The lateral incisor is placed farther back, particularly its point; the cuspidatus is directed more outwards as well as the bicuspides."

It has been generally supposed that the permanent teeth are very irregular as to the time of their appearance; so much so, indeed, that no estimate of the age of a child could be formed by the number of permanent teeth present. Such, however, is not the case. Mr. Saunders, with great success, investigated the subject statistically, and has been led to the following results:—First, that at nine years of age the first permanent molars are developed. Second, that at the age of thirteen the whole of the permanent teeth, excepting the wisdom teeth, are present. In Mr. Saunders' monograph, entitled, "The Teeth as a Test of Age," is a full account of his researches. He concludes with the following paragraph:—

"Thus, then, it appears that of 708 children of nine years of age, 389 would have been pronounced, on an application of this test, to be near the completion of the ninth year; that is, they presented the full development of that age. But on the principle already stated, that of reckoning the fourth tooth as present when the three are fully developed, a still larger majority will be obtained, and instead of 389 the proportion will be as follows:—Of 708 children no less a number than 530 will be fully nine years of age. What, then, are the deviations in the remaining 178? They are the following:—126 would be pronounced eight years and six months, and the remaining 52 eight years of age; so that the extreme deviations are only twelve months, and these only in the inconsiderable proportion (when compared with the results obtained by other critera) of 52 in 708.

Again, of 338 children under thirteen years of age, no less than 294 might have been pronounced with confidence to be of that age. The remaining 44 would have been considered as follows:—36 in their thirteenth, and 8 near the completion of their twelfth year."

It would seem, from Mr. Saunders's statements, that the intermediate ages between nine and thirteen—indeed from seven to thirteen—may be estimated by examining the teeth. I am not aware that these assertions are backed by extended statistical research.

I have been, during the past two years, engaged in collecting statistical facts upon the subject, but at present I have been unable to put them into definite form; however, I am prepared to corroborate the general correctness of Mr. Saunders's views.

### *Growth of the jaws.*

The maxillæ, in their growth, present the peculiarity of increasing at the posterior part only. After the eruption of the second milk molars, we find them placed at the base of the coronoid process of the lower, and at the posterior edge of the upper jaw. At the age of seven, we find, on the contrary, the milk molars situated considerably in advance

of these points. The jaws have, in fact, grown at these points; that is, anterior to the coronoid process in the under jaw, and the tuberosity in the upper jaw. At the same time that growth has proceeded rapidly at the posterior division, no increase whatever has taken place anterior to the last milk molar, excepting some slight addition in depth. The alveolar space found at the seventh year is, about that time, wholly occupied by the first permanent molar, which, when cut, lies close to the base of the before-named process. The maxilla still grows, not, however, at the points between the coronoid process in the tuberosity and the last milk molar, but between the newly-developed first permanent molar and these processes. So that a second space is formed in the jaw, which is, when sufficient, occupied by the development of the second permanent molar. The growth continuing posterior to the second molar, a third space is formed, which is filled by the wisdom-tooth. The jaws then cease to grow, and change only after the removal of the teeth.

Some few cases are recorded in which the permanent teeth were said to be removed, and a third set to have taken their place. I have not in my own practice seen any confirmation of these statements, neither are dentists generally disposed to give much credit to the assertion. It would seem improbable that a third set of teeth should be formed, yet it is by no means impossible. We see nature depart from her ordinary law in producing irregularity in various parts of the body. I do not know, therefore, why we should regard the production of a third set of teeth as absolutely impossible. The point, however, is not likely to be set at rest, for the statement of patients cannot be depended on, as they are unable to distinguish between the temporary and permanent teeth, and dentists are not themselves likely to see from infancy to old age a patient subject to this peculiarity.

*Supernumary teeth.*

Thirty-two is the number of the permanent teeth; but supernumerary teeth are not very uncommon. When found they are mostly of a conical form, single-fanged, and placed between the other teeth. I have seen a case in which a supernumerary tooth had grown between and behind the central incisors of the upper jaw. Sometimes they are placed between the molars: I believe they are far more common in the upper than in the lower jaw. When occurring between the molar teeth, the supernumerary tooth looks in form, and sometimes in position, as though it had been formed by the disunion of one of the cusps and roots of the contiguous tooth during the earlier stages of its development.

*Hereditary character of the teeth.*

It is a well-attested fact that the properties of the parent are to a considerable extent transmitted to the offspring. In no part of the body is this hereditary character more frequently displayed than in the teeth, and especially as regards the external form. If the teeth of the parents be strong and well formed, we may expect to find similar teeth in the child—unless, indeed, the child be unhealthy. Peculiarities in colour and in position are often transmitted. The predisposition to early decay often passes from the parent to the child. It does not, however, follow that the hereditary peculiarity in dental formation will in all cases appear; on the contrary, we sometimes see cases in which the reverse has manifestly occurred. Again, a peculiarity may not reappear in the first or even the second generation, but show itself in the third remove from the original parent. These facts are worth bearing in mind, as they often influence the treatment of the anormal conditions of the teeth. Not that the fact of a malady having occurred in the parent of a patient will of itself indicate a peculiar treatment; but you will probably learn how the remedy was, or was not, effected by the treatment adopted in this previous instance. This knowledge you will find especially useful when similar cases have occurred in the children of one family.

It has been observed, in persons who have died from suffocation, that the teeth are in some cases stained red. This state, before the structure of the teeth was understood, was considered to be a proof of their vascularity. It was supposed that the blood imparting the colour was contained in vessels which, in these cases, were gorged by the mode of death. This, I need not tell you, is an incorrect hypothesis: vessels, when they do exist in the substance of the tooth, are never present in such number as to give a red colour to the dental tissues. We shall find the more correct explanation by considering the state of the blood in asphyxia. The colouring matter of normal blood resides entirely in the globules. The liquor sanguinis is perfectly colourless. But under certain circumstances the coloured globules decompose, or are dissolved in the liquor sanguinis, which then becomes a deep red. The tubuli of the teeth, though too small to admit the red globules of the blood, freely admit the liquor sanguinis; and if this be coloured red, the tooth itself will necessarily take the same hue.

In persons suffering from jaundice, the teeth become tinged. In some few instances they take a deep yellow, almost equalling in intensity the colour of the skin, but in the majority of cases they assume only a faint tinge of yellow.

In taking a retrospective view of the ana-

tomy and physiology of the teeth, we are forcibly struck with the adaptation of these organs to their peculiar functions. Early in life, when the jaws are small and comparatively powerless, the small and more delicate milk-teeth are provided by nature to perform the necessary office of mastication. When the body has increased in size, and the jaws have become larger and more powerful, the smaller teeth are, by a natural process, removed, and a stronger and more numerous set is developed, with which we are enabled to masticate the more solid food required for the sustenance of the adult.

Like the bones generally, the teeth are required to support mechanical resistance, and in the two we find the structure admirably adapted to this end, but in the teeth the mechanical force is mediate in its application; and in them we find a peculiar arrangement of osseous structure, enabling them to withstand without injury the force applied. And, as a further adaptation, they are endowed with a lower degree of organization than the bones, which, covered by soft tissues, are less susceptible of injury from mechanical force.

The teeth are said to possess in themselves no power of reproduction by which an injury can be repaired. This is not strictly true. The injury to which, in a state of nature and health, they are most liable, is wearing away of the masticating surface from use. The worn surface certainly is not renewed, but the teeth increase in density, and the pulp-cavity diminishes in size by the formation of dentine, so that the actual amount of dentine is not diminished, while the density is increased. In each of these actions we may recognize a form of renewal which in some degree compensates for the loss by abrasion. If the whole act of mastication is from any cause thrown upon two or three teeth, then these naturally, by the excessive use, wear away, till at last the whole crown is exhausted.

The teeth are important as organs of articulation; so much so, that when lost we can scarcely make ourselves intelligible. The physiology of the teeth, when limited to this use, is well worth investigating, had we time at our disposal; but before leaving the subject, I may draw your attention to a few curious facts in connection with the form of the mouth in those possessed of a good voice.

Wherever you have a fine clear sonorous voice, you will find well-formed and well-arranged teeth; each tooth will occupy its proper place. But, what is perhaps still more important, the hard palate will be well formed; that is, it will present a section of a large arch, perfectly free from contraction either from side to side or from before backwards. There will not be a deep vaulted form, neither will there be a sudden elevation immediately behind the front teeth, so common in those who speak with indistinctness; on the contrary, the palate will rise gradually. The mouth, and its dental appendages, are of the first importance in relation to the voice, yet they are highly important as auxiliaries, and as such their condition should not be lost sight of.

In our next lecture I shall commence with the diseases of the teeth.

## Original Communications.

### CASES OF OXALURIA.

By E. J. Shearman, M.D.

The difference of opinion expressed by various writers on the occurrence of oxalate of lime as a deposit in urine, is sufficient to convince medical practitioners of the fallacy of placing implicit reliance on all the statements met with in the periodicals, or even some of the standard works of the day. And any effort, however feeble, made to place the pathology of the oxalate of lime diathesis on a sound basis, cannot but be acceptable to the scientific and conscientious practitioner.

Since I read Dr. Dick's observations in the Medical Gazette, regarding the detection of oxalate of lime, it has happened that I have met with a few more cases where that deposit has occurred. I am tolerably well acqainted with the general appearance of oxalic urine, and have used every effort to discover it without the aid of the microscope, but with no success: and, unless I am still very much in the dark on that subject, I continue to think it impossible. In one of my late cases I strongly suspected, from the symptoms of the patient, oxalates to be present; and, after allowing the urine to deposit for twenty-four hours, I took a portion from the bottom of it in a watch-glass, dissolved by heat the urate of ammonia, and endeavoured to manœuvre the contents of the glass so as to determine any deposit to the bottom of it, and then drew off the top part of the urine with a pipette—replacing it with distilled water. But with a quarter of an inch power not a crystal could be discovered under the

microscope: and I tried this plan many times unsuccessfully. But when I put on a power of an eighth of an inch, there appeared, immediately, hundreds of beautifully defined octahedral crystals, which could not, for one moment, be mistaken for anything but oxalate of lime. I have already noticed in the GAZETTE and elsewhere, that I meet with this deposit very frequently: and in future, will take notice of the most interesting ceses of oxaluria, and treatment of them, for insertion in the MEDICAL GAZETTE, should they be thought sufficiently important.

The three following cases are now under my observation:—

CASE I.—This differs so much from the generality of cases of oxaluria, that I am induced to relate it. It is commonly found that the oxalates are more plentiful in the urine after dinner, or in the urina chyli, than in the morning, or urina sanguinis: and as the cause of the deposit is supposed to depend on mal-assimilation of the food in the stomach, this seems to be the most likely time to find it. But here, the deposit of oxalate of lime was never found in the urine after any meal; but was always most plentiful in the urine voided in the morning.

Mr. W. Taffinder, a watchmaker by trade, aged 29, of very sedentary and not very regular habits, consulted me on the 21st of January last, for the following symptoms: Extreme debility; great exhaustion after slight fatigue; loss of appetite; a feeling of oppression and puffing up of the stomach and bowels, accompanied with dizziness and confusion in the head, almost amounting to syncope, very shortly after taking food of any description, with acid eructations, relieved only by going into the fresh air; tongue furred, white in the centre, with red edges; pulse 72, and feeble; bowels very much confined, but motions looking healthy; no tenderness in scrobiculus cordis or region of the liver; urine after dinner, and until evening, of the specific gravity of 1.001, and amber colour, with slight deposit of urate of ammonia, and no oxalates; morning urine, amber colour, specific gravity from 1.023 to 1.035, and full of very large crystals of oxalate of lime and urea, without urate of ammonia.

It would not be interesting or useful to give a daily report of this case; suffice it to say, that notwithstanding I took every pains to correct the deranged state of the digestive organs by mild alterative, aperient, and tonic medicine; and a diet consisting of light and easily digestible animal food, without vegetables; and brandy and water, to a certain extent, instead of any other liquid at meals; he gradually improved in all his symptoms, except the debility: the deposit of oxalate of lime continuing steadily and daily in the morning urine. On the 18th of February, the morning urine was of the specific gravity of 1.036, full of oxalates and urea; while the afternoon urine contained no oxalates, and much less urea.

Although there is no tenderness on pressure in the region of the stomach, and no symptom of diseased liver, yet, from the long time required to produce the deposit of oxalates in this case, I cannot help suspecting some chronic organic disease either in the pylorus or kidneys: and this information will induce me to give a guarded prognosis, and very careful directions respecting diet and medicine, for a length of time to come.

CASE II.—Another very interesting case occurred in the person of a married gentleman of rank, with a very fine young family, who has constantly lived a most regular and not sedentary life. In the spring of 1845, he lost, by death, a valued friend, under most painful circumstances; the energies of his mind and body were completely worn out during his attendance upon him; and he informed me that soon after that occurrence, he was seized with very unaccountable and extreme debility, although his appetite remained pretty good. So great was this weakness, that he could with difficulty cross a street in London without great danger of being run over; and such an exertion caused so much confusion in his head that it nearly made him faint.

On the 10th of December 1845, he was suddenly seized with inflammation of the left testicle while at a friend's house, without any apparent cause; he remained quiet that day, and it disappeared, but the following day he took walking exercise, and came home with his testicle very much enlarged, and complained of an acute sickening pain in it. I saw him the following morning; found him exceedingly

feeble, with a full pulse at 100; he had been shivering; tongue thickly furred with red edges; bowels confined, and motions almost black; the left testicle four times its proper size, very tender, particularly over the epididymis, but no swelling in the spermatic cord; a great deal of tenderness in the left groin, but no enlarged glands. I prescribed the antiphlogistic regimen; recumbent posture; leeches to the testicle, followed by an evaporating lotion; hip-bath; cathartic medicine, and afterwards salines with antimony; but took care not to reduce his diet too low. He never had a stricture, difficulty in passing his urine, or, in fact, any symptom which would have led me to suspect disease in the urethra, bladder, or kidneys. The testicle slowly improved; but did not go on satisfactorily to myself; and on examining his urine I found it constantly alcaline, specific gravity 1·030, with deposit of the largest triple phosphates of ammonia and magnesia in prismatic crystals that I ever recollect meeting with. In spite of the continuance of the inflammatory symptoms in the testicle, I now prescribed a better diet; changed his room, allowed him to take a little exercise, and gave him some light tonic. But he became very irritable; disappointed at the complaint not entirely subsiding; restless and uneasy under all circumstances; and I could not persuade him to persevere either with tonics or a generous diet. The testicle, however, gradually improved, but did not get well.

On the 14th of January last, I was again sent for in consequence of his having caught a severe catarrh by exposure to cold, and the testicle had become more painful and enlarged; his pulse continued very rapid and weak, being full 110 for more than a week; and the urine was still alkaline, and of a high specific gravity; he had a very troublesome cough, but no crepitant or bronchial rhonchus could be detected. I confined him to his room, did not reduce him too much in diet, and gave him diaphoretic, saline, and alterative medicine, which treatment relieved this state as well as the testicle. But this catarrh reduced him exceedingly, and I evidently observed him become more nervous, restless, and desponding. I again put him on a better diet; and got him into the air in fine weather.

On the 2d of February, he felt his right testicle very tender; and on examining, I found it very much larger than in health. He now had uneasiness in the region of the kidneys; a sickly exhausting kind of pain over the pelvis when he stood up or walked; great nervous debility; confined bowels with defective biliary secretion; quick pulse; loss of appetite: but the urine was not acid; the specific gravity of that after after luncheon to-night being daily from 1·030 to 1·035, with abundant deposit of oxalate of lime in very fine octahedral crystals, and a very large quantity of urea; and the morning urine of the specific gravity of 1·025 or less, with very few oxalates, but too much urea.

The discovery of this oxalic state of the urine after so long a continuance of phosphalic deposits, coupled with his low, irritable, and nervous condition, without any other detectable disease, at once explained the nature of the case to me; which I must acknowledge had before appeared obscure. I think a large quantity of crystals of oxalate of lime were formed in the kidneys; the passage of them through the ureters irritated the nervous structure of those organs so much as to induce the pain he complained of over the pelvis, as well as the irritation in both testicles. And the low nervous irritability was sufficiently accounted for. I immediately placed him under a regulated animal diet, with brandy and water instead of beer or wine; advised him to eat very little sugar, butter, or any thing which would be likely to encourage the formation of oxalic acid in the secondary process of digestion; and gave him small doses of Hydr. c. Cret. et Rhei, with Nitro-Muriatic acid in Infus. Serpentar. et Aurant. And although he has only been under this plan a week, the quantity of oxalates and urea have decreased, as well of course as the specific gravity of the urine, and he is certainly gaining ground; the pain in the pubis and testicle being much less, and he is less irritable and stronger. This gentleman is obliged to go to town on parliamentary business. I shall, therefore, not have an opportunity of watching the issue of this case myself, but will report its progress as soon as it is in my power.

Case III.—I saw Mrs. Ellis, aged 53, a tall, thin, emaciated woman, who

has borne children, on the 6th of January last. She had every appearance of labouring under the influence of scirrhus of the pylorus; but I could detect nothing of the sort on examination. Her bowels were confined, but th excretions of a good colour; pulse very rapid and weak; tongue furred white, with red edges; appetite bad; complaining of pain and flatulence for several hours after eating or drinking anything, and scalding eructations; could not sleep at night in consequence of feeling so low and depressed; in fact, she was the picture of misery. She had passed a large quantity of light amber-coloured urine of the specific gravity 1·026, and the evening urine contained a large quantity of very fine crystals of oxalate of lime, with a moderate quantity of urea; but no albumen or sugar.

I put her on a bland diet, consisting of groat-gruel and milk, with rice pudding occasionally; gave her slight alteratives with an alkaline aperient, combined with hydrocyauic acid, on which plan she very soon began to improve. As her tongue cleaned I added a light tonic; and now, 18th Feb. she can digest a mutton-chop without the least uneasiness. But the oxalates continue to be deposited in the day urine, although in less number and smaller.

I have purposely abstained from giving either nitric or muriatic acids in the first and third cases, as I particularly wish to discover whether the oxalates would disappear when the digestive organs become sufficiently healthy to allow the patients to take animal food with comfort. But although they have both very much improved, not only in their appearance, but in spirits and strength, yet the oxalates continue to be formed.

As far as I have been able to notice, this disposition to form oxalate of lime does not depend on local situation, or any particular habits, for I have met with it equally in all classes, and amongst strangers in the neighbourhood, as well as old residents. Two of the above cases have not resided here more than six months, and I feel convinced this substance would be found in the urine much oftener than it is, if properly sought for.

Rotherham, Feb. 18th, 1846.

[To be continued.]

CASES OF

## DIABETES MELLITUS, &c.

By John Percy, M.D. Edinburgh.

[Continued from page 291.]

*Diabetes mellitus, in a child, æt. 7, with microscopic examination of the stomach, by Mr. Busk.*

I am indebted to my friend, Dr. James Russell, of this town, for the opportunity of examining this case.

Jan. 22d, 1845.—Alfred Stubbs, æt. 7, eldest of four children. Light brown hair, and pale blue eyes. Had scarlatina two months ago, but without sequelæ; never had rubeola or pertussis; had ascarides about eight months ago. Until five years ago he had always enjoyed good health; he was first observed "to begin to droop" about two years ago. The first symptom which attracted notice was depression of spirits; "he seemed as though he were grieving or fretting about something." Ever since that time he "has made a deal of water," and lost much flesh. Until that time he was a fat child, but has been falling away ever since: always has had a thirst upon him during these two years. His appetite has uniformly been good; he has never been exposed to cold; has been allowed to sit up late at night, until 10 or 11 o'clock. He is reported to pass about a gallon of water daily. That which I examined when I first saw the boy was straw-coloured, and had a sp. gr. of 1039°; sweats much at night, and generally wets his bed. Thirst still ardent; "would be always drinking, if allowed;" heavy and dull aspect of countenance; tongue moist, and somewhat pale; skin dry and warm; bowels pretty regular; slight hacking cough; abdomen protuberant and tympanitic; considerable emaciation generally. His weight is 35lbs. 8 oz. Until the last week he has not been in any way restricted in diet, having previously eaten potatoes and bread abundantly: has eaten voraciously yesterday, and this morning. His mother's father, brother, and two sisters, died of consumption. His mother's mother died of apoplexy.

I was extremely particular in respect to the accuracy of this report; I interrogated his father, mother, and aunt, independently of each other.

I simply recommended a diet of ani-

mal food, with a diminished quantity of bread. It was found, however, impossible to enforce the prescribed restriction, as the child cried bitterly when vegetable matter was in great measure withheld from him.

Jan. 25th.—Much as before.

29th.—His father states that he has appeared more cheerful during the last two or three days. No difference at present observed in any other respect. Tongue smooth and red, but not raw-red.

Feb. 26th.—Has been more cheerful since he has been taking a larger proportion of animal food. His parents have not been able fully to carry out the plan of an animal diet, in consequence of the child's fretting much, when debarred from bread and similar matter. Plays about much as other children. His appetite still continues keen, and he eats frequently in the day. Tongue clean, reddish towards the tip; cheeks somewhat flushed; complains of a pricking sensation in the eyes; bowels regularly moved once daily. From 6 P.M. on the 23d to 6 P.M. on the 24th, he passed six pints of urine. I recommended sassafras water, mixed with lime water, for common drink, and hard biscuit to be eaten in moderate proportion. I also prescribed a mixture of cascarilla, with carbonate of soda.

I requested his mother to ascertain exactly what he ate and drank in the course of twenty-four hours, and she gave me the following statement, which may be taken as a near average of his daily sustenance:—

| | |
|---|---|
| Meat . . | 4½ oz. |
| Bread . . | 8 do. |
| Rice pudding . | 9 do. |
| Two eggs. | |
| Two roasted apples. | |
| Milk . . | 1 pint. |
| Tea . . | ½ do. |
| Water . . | 1½ do. |

On the day when this observation was made, from 6 in the evening to 6 on the following evening, he passed 5 pints of urine. I never saw the child again alive. The father assured me, that finding it impossible to adhere to my advice in respect to diet, he felt ashamed to bring the child to me.

On the evening of the 1st of November, his friends believed that he was attacked with rubeola, as two other children in the house were attacked with that disease at the time. The advice of a medical man was first sought on the 3d, when Mr. Sainson, of this town, saw him. Mr. Sainson informed me that he did not recognise the symptoms or appearances of rubeola. There was great prostration of the vital powers; the pulse was extremely feeble, the surface of the body was cold, and there was tracheal râle. He died about 8 P.M. on the 24th.

*Post-mortem examination* on the following day at 12, conducted by my friend Dr. Russell, as Mr. Sainson was not able to attend:—The body did not appear to be so emaciated as we expected. Head not examined. The lungs were somewhat gorged with serous liquid. In some of the bronchial ramifications we remarked a small quantity of muco-purulent matter. The lining membrane of the trachea appeared congested, and was covered with brownish-coloured mucus. There was no adhesion of the pleura on either side. No effusion, except to a slight extent, in the pericardium. We searched carefully for tubercle, but discovered not a trace. With the exception of slight enlargement of some of the mesenteric glands, we found no appearance of disease in the abdomen. The gall-bladder was moderately distended with bile. The kidneys were somewhat pale. The bladder was fully distended with urine, and extended higher than the umbilicus, the body, of course, reclining on the back. Fat was only sparingly present. I transmitted the same evening the entire stomach and a piece of the small intestine to my friend Mr. Busk, for microscopic examination, and in this case I did not employ any preservative solution.

I have great pleasure in introducing Mr. Busk's report, which I received by return of post.

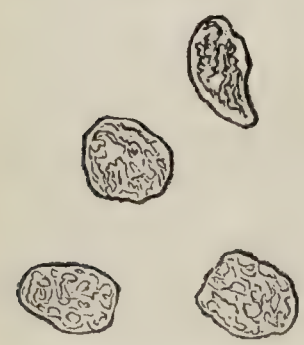
"Greenwich, Nov. 6, 1845.

"My dear Sir,—I have lost no time in examining the stomach and intestine, which arrived this morning in good condition. The result is not very remarkable, though in some measure interesting, as it tends rather to confirm the supposition, that diabetes is connected with a confervoid growth in the contents of the stomach. In the present instance such a growth is undoubtedly to be observed, but it is in much smaller quantity than in the former case.

"The stomach contained only a small quantity of black, viscid, mucous matter, which consisted principally of mucous or detached epithelial cells (figs. 5 and 6); the former from the

Fig. 5.

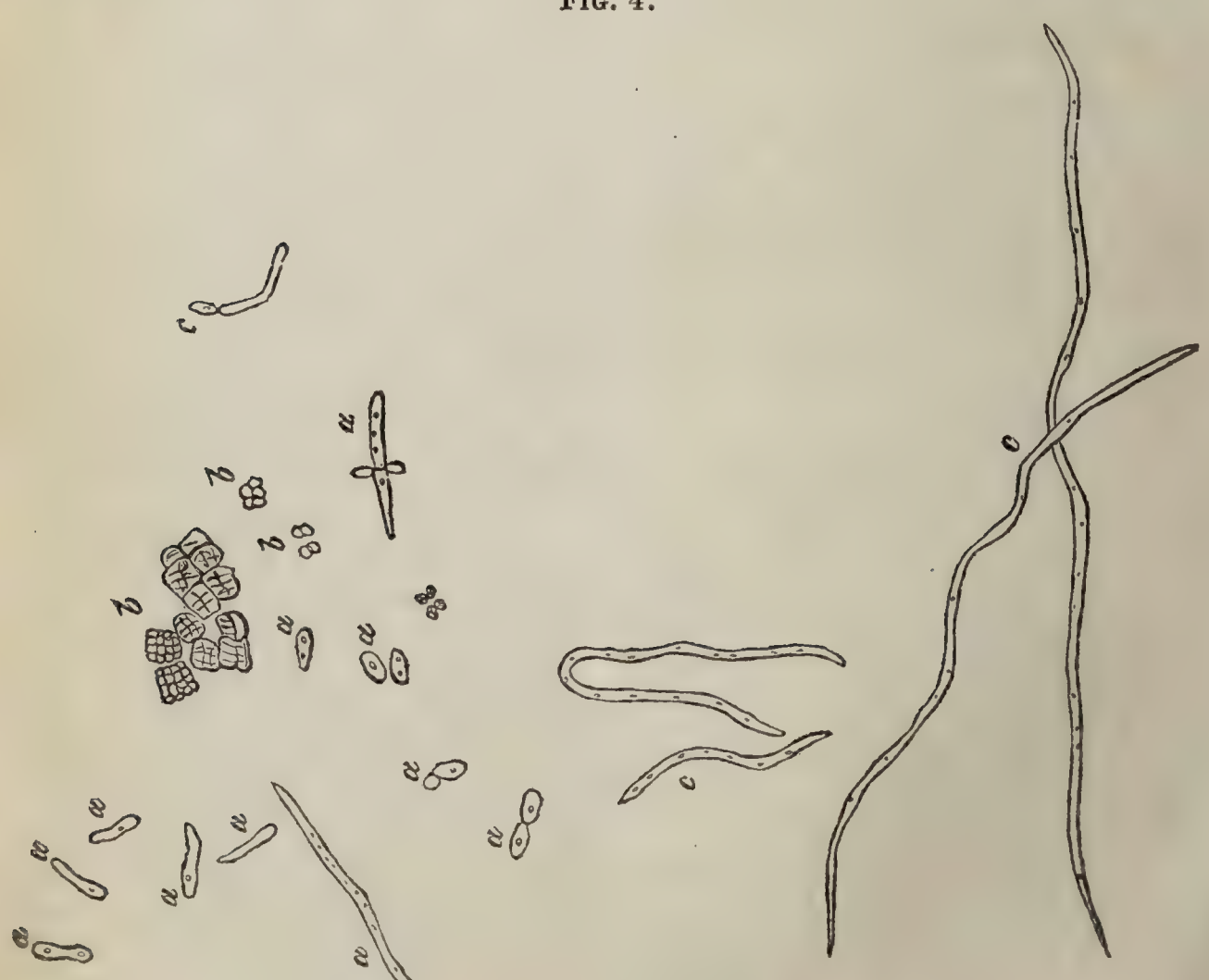
Fig. 6.



pyloric, and the latter from the cardiac end of the viscus; besides these entire cells were the abundant remains of others, more or less disintegrated, and especially of their isolated nuclei, all of natural appearance, as were also the foveæ of the mucous membrane, with their contents (fig. 7). Among this mucus were some confervoid sporules (?) and mycelia (*a*, *a*, and *c*, *c*, fig. 4), but

Fig. 7.

Fig. 4.



not in great plenty, and the mycelia were present only towards the pyloric end of the stomach. This fungus has the same character both of sporule and mycelium as that which I found in the last stomach you sent. There was also abundance of *sarcina ventriculi* [Goodsir] (*b*, fig. 4), in all stages of growth, or formation. The black colour appeared to depend on amorphous black masses, of whose nature I could not satisfy myself, but they did not occur in the mucus immediately adherent to the surface, so I suppose they were not the product of secretion. There was also a very large quantity of amylaceous particles whole, or in fragments; the former distinct by the shape alone, and the latter readily detected by iodine.

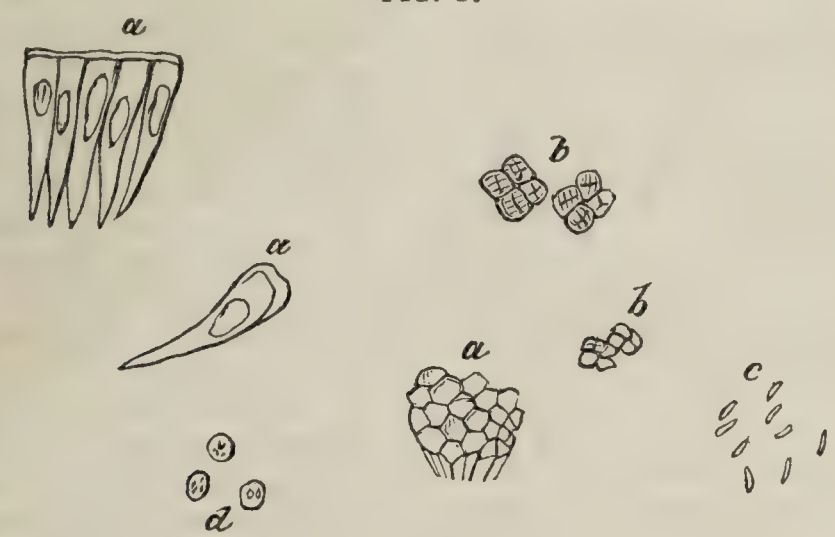
"In the bowel there was also nothing but black grumous mucus, of similar appearance to that in the stomach, but which contained no starch, and no confervoid sporules or filaments, though it did contain some, but not a great many bodies of the *sarcina* (*b*, fig. 8). The mucous part was composed of prismatic epithelium, of natural appearance (*a*, fig. 8), and of the isolated nuclei of similar cells (*d*, fig. 8), and contained also some vibriones (*c*, fig. 8.)

"The appearance of the mucous membrane, both of stomach and bowel, was in all respects natural.

"Ever yours truly,

"G. Busk."

FIG. 8.




*Chemical Examination of the Urine.*—Passed, Jan. 22, nearly as colourless as water, having merely a very pale straw tinge; perfectly bright; odour very feebly urinous; reddens litmus-paper; sp. gr. 1033°, 56° Fah.; no turbidity by boiling.

*a.* 100 grains by evaporation in vacuo over S $O^3$ during 10 days gave of pale brown residue 8·85.

*b.* Two experiments were made for the determination of sugar:—

1. 100 grains fermented over mercury, with yeast furnished 5·7 c. i. gas; volume of liquid measured, 1·0 c. m.; temp. 56° Fah., Bar. 28·9.

2. 100 grains fermented in the same way, furnished of gas 5·9 c. i.; volume of liquid measured 0·9 c. i.* Thermometer and barometer as before.

Mean 6·75. I did not correct for temperature, but only for pressure, as the difference between the observed temperature and that to which the correction should be made, viz. 60°, is so small that in an analysis of this kind it may be neglected.

We have, then, of sugar, 69·00 per 1000.

*c.* 400 grains, after fermentation, gave of nitrate of urea 2·2=per 1000 5·5, or 2·7 of urea.

*d.* 100 grains of urine evaporated and incinerated at a very low red heat, gave of saline matter 0·22, or 2·2 per 1000.

The results, tabulated, are as follow:—

*Analysis of* 1000 *grains.*

| | |
|---|---|
| Solid residue . . . . . | 88·5 |
| Water . . . . . | 911·5 |

* The urine is always diluted with water used to rinse out the small vessel in which it is weighed, and from which it is introduced into the graduated tube. I proceed in the following manner:—I nearly fill the tube with mercury, and support it perpendicularly, with the open end upwards. I then pour in the urine, mixed with yeast, and rinse as mentioned above. I now quite fill the tube with water, a space of a quarter of an inch being generally left, stretch over the open end a piece of white leather previously moistened with water, and then rapidly invert the tube over mercury.

| | |
|---|---|
| Sugar* | 69·0 |
| Urea | 2·7 |
| Indeterminate organic matter | 16·6 |
| Saline matter | 2·2 |
| | 1000·0 |

Urine passed in the night, Feb. 27, almost as colourless and transparent as pure water; characteristic odour of diabetic urine; sp. gr. 1031° 47° Fah.

*a.* 100 grains evaporated as before, during eleven days, gave of pale brown residue 8·35, or 83·50 per 1000.

*b.* 100 grains fermented gave of gas 5·1 c. i.; volume of liquid measured 1·0 c. i.; volume of gas may, therefore, be taken at 6·1 c. i.; temp. 58° Fah., bar. 29·6. Equal to sugar 6·367, or 63·67 per 1000.

*c.* 1000 grains of urine after fermentation, gave of nitrate of urea 6·37 grains, or 3·11 urea.

*d.* 500 grains evaporated and incinerated, after fermentation gave of saline matter, soluble in water, 1·69, or 3·38 per 1000; of saline matter, insoluble in water, 0·10, or 0.20 per 1000. Hence the following analysis of 1000 grains:—

| | |
|---|---|
| Solid residue | 83·50 |
| Water | 916·50 |
| Sugar | 63·67 |
| Urea | 3·11 |
| Indeterminate organic matter | 13·14 |
| Salts soluble in water | 3·38 |
| Salts insoluble in water | 0·20 |
| | 10000·0 |

My former pupil, Mr. J. H. Stallard, of Leicester, made the following analysis, in my laboratory, of the urine passed in the evening of March 25:—Colourless as water, clear, feebly acid, sp. gr. 1035, 58° Fah.

*a.* 500 grains evaporated over steam bath, during many hours, gave of residuum 46·0, or 92·0 per 1000.

*b.* 100 grains fermented over mercury, gave 7.6 c. i.; inclusive of the volume of liquid, equal to sugar, 7·85, or 78·50 per 1000.

*c.* 1000 grains after fermentation, gave of nitrate of urea 5·63, or 2·75 urea.

*d.* 100 grains gave of fixed saline matter 0·32, or 3·20 per 100. Hence the following analysis of 1000 grains:—

| | |
|---|---|
| Solid residue | 92·0 |
| Water | 908·00 |
| Sugar | 78·50 |
| Urea | 2·75 |
| Indeterminate organic matter | 7·55 |
| Fixed salts | 3·20 |
| | 1000·00 |

*Examination of the urine obtained from the bladder after death.*—I readily filled a half-pint bottle by squeezing the bladder; colour straw; sp. gr. 1020, 59° Fah.; not perfectly bright, minute particles being suspended. Small bubbles of gas were seen rising through the urine. Turbid by heat, and $N O^5$, with separation of flocculi; slight turbidity by addition of $N O^5$ to the *boiled* and filtered urine. Copious curdy precipitate in the boiled and filtered urine, by the addition of Ag O, $N O^5$, only partially dissolved by $N O^5$. Reddens litmus-paper.

*a.* 100 grains evaporated in vacuo over 80° gave of light brown residue 4·87, or 48·70 per 1000.

*b.* 250 grains fermented over mercury, gave of gas 3·2 c. i.; volume of liquid measure, 1·5 c. i.; barom. 28·0; temp. 54°Fah., corresponds to 18·24 of sugar per 1000.

*c.* On addition of $N O^5$ to residue of alcoholic solution, effervescence occurred, and no nitrate of urea separated. However, crystals of oxalate of urea were obtained by addition of oxalic acid to residue obtained by simple evaporation. The proportion of urea was not determined.

*d.* Saline matter was not estimated.

*Ultimate analysis of the crystallized mass obtained by evaporation of the urine by* Mr. J. H. Stallard.—The syrup obtained by evaporation of the urine passed Jan. 22, was freely exposed to the air until perfect crystallization occurred. The dry crystallized residuum, which had only a very pale brown colour, was reduced to powder, passed through a fine sieve, and further dried over $S O^3$, under a glass shade during several days.

1st analysis, 8·41 grains, furnished of H O 5·44 grains, H O 60, or 7·19 per 1000; of $C O^2$ 10·90, C 2·97, or 35·36 per 1000.

2nd analysis, 8·98 grains gave of H O 5·71, H 6·63, or 7·07 per 100; $C O^2$ 11·61, C, 3·16, or 35·27 per 100.

I have also made an analysis, ultimate and proximate, of the fæces of this boy.

[To be continued.]

* The sugar crystallized readily by exposing the syrup of urine to the air for a few days. I have generally remarked that when a diabetic patient is fed principally upon animal food his urine reduced to a syrup by evaporation will frequently not crystallize.

# VALENTIN ON THE FUNCTIONS OF THE NERVES OF THE ORBIT*.

*Translated from the Latin,*

By John F. France,
Assistant-Surgeon to the Eye Infirmary, Guy's Hospital.

[Continued from page 342].

## Part II.

*The motor oculi, or third cerebral nerve—Two modes of dividing it within the cranium—Danger of wounding the carotid, and effects of the accident—Severe suffering on division of the nerve—Its effects on pupil—Effects of irritating the nerve on a dead subject—Pathological illustrations—Muscles supplied by the nerve, voluntary and automatic—Their actions and association—Associated contraction of pupil—Question of its voluntary contractility — Sympathy of motor oculi with retina in disease.*

The experiments hitherto made respecting the motor oculi in living animals by Mayo† and Fari‡ were such, that a decided judgment as to its sensitive power could scarcely be formed from them; it being no matter of surprise, that a bird like the pigeon (which does not evince pain by cries, but by motions) should, after denudation and partial removal of its brain, indicate but doubtfully, the reaction of a nerve, by no means large, and not of sentient endowments only. In order, therefore, to be more satisfied respecting it, I reached the nerves, as may be done in rabbits, with a less amount of injury.

To divide the motor oculi at the base of the skull, the neurotome, with its cutting edge horizontal, is made to pierce the integuments and bone, immediately in front of the external ear, in the plane of a horizontal line dividing the orbit into superior and inferior halves; and having entered the cavity of the cranium, and being so turned, to the extent of 90°, that the point is directed downwards, it is advanced within the base of the skull, as far as the body of the sphenoid bone; which arrests it, and therefore is readily felt. The instrument being then slightly withdrawn, is gently thrust inwards from a quarter to half a line, and thus one motor oculi nerve is cut through, or both. Another mode of performing the operation is to enter the cavity of the cranium at the posterior margin of the orbit; follow closely the posterior and internal face of the external wall of the orbit; and, on nearly reaching the longitudinal median line of the base of skull, to incline the instrument somewhat inferiorly and posteriorly, so as to touch and divide the third pair.

Each of these methods has several advantages and inconveniences: the former is the surer way of hitting the desired nerve only, (though the internal carotid may very easily be injured, and apoplexy result); but the latter often fails, from the optic nerve, being wounded as well; and hence the former plan is the more eligible, the number of animals used for the experiments not being considered. If the carotid artery is opened in this operation, the animal is directly seized with convulsions, affecting most strongly the posterior extremities. As the effused blood approaches nearer and nearer the crus cerebri, the body is turned continually with increasing force, in a circle; the direction of rotation being to the opposite side to that of the wound, provided the extravasation does not spread across the median line; in which event this symptom is either imperfect, or altogether absent. The head is also not unfrequently retracted by tetanic spasms; then paralysis of the respiratory muscles of the chest, laboured abdominal respiration, and local or general convulsions of the muscles of the body supervene, which are sooner or later followed by death. I have never witnessed involuntary discharge of the urine and fæces in these cases; but from the commencement of the hæmorrhage to the period of death, the irritability of the skin, and the reflex muscular contractions in consequence, are such, that the lightest touch of the integuments immediately excites spasms, particularly in the muscles of the extremities. All portions of the cutis, however, under these circumstances, are not equally irritable; but it exhibits exalted sensibility of parts, in the following ascending scale, viz.; the skin of the extremities; of the back;

* "De functionibus nervorum cerebralium" 4to Berne.

† Majendie, Journ. de Phys. Vol. iii.; Fror. Not. Vol. x.

‡ Behrend's Rep. Vol. v.

the abdomen; the posterior, and finally the anterior part of the face.

Whichever operation is adopted, the animals are perfectly silent, except on the wound of the skin, until the motor oculi is touched, when they directly moan most vehemently and piteously; and their cries increase during the division of the nerve, though still, less than those excited by irritation and section of the fifth. At the moment the motor oculi is cut through, the pupil of the affected eye, and frequently that of the sound one, becomes excessively contracted: if death ensue from the operation, it expands a little during the agony, but does not reach its original size; whereas if the animal survive, it becomes absolutely dilated, and continues in this state paralyzed. The sun's rays concentrated with a magnifying glass, and thrown either upon the iris or retina, now cause no change in the pupil; nor,—though the sound eye, if the rays of light are thrown upon it, exhibits the usual motion of the iris,—does the pupil of the injured one consentaneously vary its diameter, or undergo any alteration through reflex action. It is obvious from all this, that the third nerve is a motor of the iris; but, that it is not the only source of its motive power, we shall explain more at large hereafter.

The other motor functions of the third pair can best be ascertained on the dead bodies of mammalia retaining their irritability; the trunks of these nerves, where they lie in the base of the cranium, being stimulated by chemical or mechanical means after the brain is removed. The changes of the pupil may be observed in dogs, cats, rabbits, horses, or birds; but I prefer the carnivora for this experiment, on account of a successful issue to it being in them more frequent; and the motions of the muscles supplied by the motor oculi are most easily produced in dogs and cats. On either mechanical or chemical stimulation of the third nerve the pupil of the same side contracts; and although it increases again in a little while, yet it never, or only after a very long time, attains its original and wonted size*; and this law holds good in all cases, whether the iris be readily or with difficulty moved. But in the bodies of dogs and cats just dead, and preserving their irritability almost unimpaired, the globe is often at the same time rotated quickly inwards; more rarely, inwards and upwards; and least frequently of all, downwards; —a phenomenon very seldom observed in rabbits, and especially unusual in birds and horses. The motor oculi is thus proved to govern the motions of the superior, internal, and inferior recti, and inferior oblique, as well as of the iris. I have seen contraction of the levator palpebræ superioris only in the cat, and that, indeed, but feeble; and the reason is no doubt to be looked for, not so much in the formation of the parts, as in the circumstance of the cranium and orbit being rapidly opened, and greater injury being consequently inflicted on the most adjacent structures. The fibres of the retractor muscle are now and then convulsed.

These motor powers of the third nerve are not uncommonly traceable in men, and in some respects, indeed, more clearly than in animals. Thus, paralysis of the branch of the superior division of the nerve which goes to the levator palpebræ, produces ptosis: and when the whole nerve is paralysed there is abduction of globe in addition; for the sixth nerve being unaffected, the external rectus, liberated from the opposition of other muscles, exerts its function to the full. Under excessive action of the motor oculi, on the contrary, the globe is drawn inwards, as we see in strabismus following division of the vagus and sympathetic in the neck.

The motor fibres of the iris are contained in the ciliary nerves*; some of which emerge from the lenticular ganglion, while the internal long ciliaries come from the nasociliary, and the external long ciliary from the lachrymal branch of the ophthalmic division of the fifth: and, on the yet irritable body, the pupil is found contracted in every eye, separated by the forceps from all that lies

* The contraction, though moderately quick, is not so rapid as that of the muscles of the extremities; but the augmentation of diameter is effected gradually. We shall speak subsequently of spontaneous changes of the pupil after death.

* The internal ciliary filaments are continued into the iris; but the external, as Schlemm (Berlin. Encycl. Wært. vol. ii.) states, enter the marginal substance of the cornea, as I have myself unequivocally seen; and unless I have been altogether deceived, after piercing the cornea, they unite by anastomosis with the nerves of the conjunctiva.

near to, or enters it, except the optic nerve; and extirpation or irritation* of the ophthalmic ganglion, on a recent subject, (or in † living animals, according to Brachet,) produces a similar effect. After division of the motor oculi, reflex action of the pupil of the same side no longer arises from irritation of either optic nerve: the pupil, however, contracts, if the portion of the third nerve remaining attached to the globe (but not if that connected with the brain) be stimulated. Light entering the injured eye causes no change of the pupil; and that which falls upon the other excites contraction of the corresponding pupil alone.‡ It clearly follows from all this, that the contraction of the iris, produced by light, is effected by a reflex influence acting upon the inferior division of the motor oculi, and the ciliary branches more especially. We shall speak below of the long ciliary nerves.

In examining the distribution of the branches of the third nerve, another circumstance presents itself, which though not absolutely demonstrable, has the strongest presumption in its favour, and is, therefore, well worth mentioning. Both divisions of the nerve are sent to the muscles of the globe; but these are various in nature and character. The superior division,—which, as we have seen, originally contains fibres of sensation, and receives new ones by anastomosis with the naso-ciliary branch of the ophthalmic division of the fifth, or with a branch of the long root of, the ciliary ganglion, supplies the superior rectus and levator palpebræ. The latter is a well-known voluntary muscle; and the former is proved by an experiment of Bell's to be the voluntary agent in directing the globe upwards; for after its division in an ape, the animal was quite unable to raise the eye voluntarily, but raised it immediately when the surface of the globe was irritated with a feather; and this result has been confirmed by experiment on a rabbit.

The superior division of the motor oculi, then, is evidently expended on voluntary muscles: the inferior, however, is for the most part, if not entirely, employed in supplying the internal and inferior recti, together with the inferior oblique and the iris. That the iris is only moved automatically, is incontestible; for we shall prove the motions, termed voluntary, to be merely reflex actions in conjunction and connection with actions of the muscles of the globe. The remaining muscles have either principally or exclusively automatic power, as the obliquus inferior; or both automatic and voluntary, as the rectus internus and rectus inferior; and by far the most remarkable automatic motion, being that which exists during sleep, is performed by them; as the eye is then drawn upwards and inwards from contraction of the inferior oblique, and rectus internus. During this action, the pupil becomes contracted: and this likewise occurs, if, as in strabismus convergens, we direct both corneæ to the inner canthus;—a movement either executed in an arc, the globe being first directed inwards, and then downwards or upwards; or directly, when it is at once drawn straight inwards. In the former case, the rectus internus, is in action, together with the inferior rectus or superior oblique; or with the inferior oblique; in the latter, the rectus internus alone contracts; while the rectus inferior, and inferior oblique, are so balanced, that the eye is not directed either upwards or downwards.* Hence we see that the principal automatic motions of the globe

* As the preparation of the ganglion by itself occupies a longer time than the irritability of the subject lasts, and cannot be effected without irritating, in some degree, the inferior division of the motor oculi, the only resource is to take it away together with the surrounding parts: but the experiment becomes in consequence less delicate and more open to fallacy on account of the other branches of this nerve. In the horse, after drawing back the skin of the head, the neurotome may without much trouble be introduced into the orbit, which is naturally half open; and the motor oculi, if its position is well known, may in this way be irritated or divided at the point where it forms the ciliary ganglion near the optic nerve. The iris of the horse is, however, so sluggish, that in numerous experiments on this plan, I have only once noticed the effect.

† Rech. exper. sur les fonct. du syst. nerv. gangl. 1837. p. 420.

‡ We have reason to believe, that these phenomena are developed in the same manner, after excision of the lenticular ganglion; and Brachet's experiments prove them to be so, though, from causes already explained, this operation is defective in strict and perfect demonstration.

* It is difficult to move both eyes inwards by contraction of the recti interni alone, or in conjunction with the inferior oblique muscles. But the movement can be easily performed if the globe is first either raised, or moved downwards and inwards; for the first impulse of the former of these motions is, we believe, manifested in the superior rectus, that of the latter in the superior oblique,—that is to say, in simply voluntary muscles; and it then is communicated secondarily to the internal rectus, a muscle partly automatic.

are effected by parts supplied from the inferior division of the motor oculi nerve; and this proposition is countenanced apparently both by human and comparative anatomy. We have elsewhere proved that the nucleated globules of the ganglia especially assist in automatic motion*.

The motions of the iris, as we shall hereafter show more fully, are governed by nervous influence from two sources, the motor oculi, and the vagus and cervical sympathetic nerves. We have already said that contraction of pupil results from irritation of those fibres of the former which influence the iris; and if these are paralyzed or impeded in their action, remarkable dilatation takes place. Diminution of the pupil arises from various causes; thus it ensues if the iris is mechanically irritated, as by escape of the aqueous humor, or lesion with a needle; and the circumstance hardly needs further explanation, the sensitive obviously exciting the motor ciliary fibres to reflex action. The pupil also contracts if both eyes are directed inwards, or inwards and downwards, or inwards and upwards; in other words, if the internal rectus, or internal and inferior recti, or internal rectus and inferior oblique, of both sides; or, which is the same thing, if the motor fibres of the inferior divisions of the third pair are simultaneously in action. But it does not contract when the eye is voluntarily turned straight upwards; and it actually enlarges upon strong exertion of the levator palpebræ superioris: so that the remarkable contraction of this aperture, which is produced directly by the motor ciliary nerves, and indirectly by certain motor fibres of the third nerve, does not follow when the superior division of this nerve is in action.

* Muck has observed in some beasts a branch sent from the ciliary ganglion to the inferior oblique and inferior rectus (De Gangl. Oph. &c. 1815): in the dog and cat it is distributed to the inferior oblique only; in the weasel (mustela foina et putoria) to the rectus inferior likewise. I have myself always found in the sheep a large branch going from the ciliary ganglion to be united with the branches of the inferior division distributed to the inferior oblique and inferior rectus. The superior division, on the other hand, receives a twig from the long root before it enters the ciliary gangilon, a fact observed also by Fæsbeck (Müller's Archiv. 1839). It is evident, therefore, that the superior division of the motor oculi is augmented by branches of sensation only, and the inferior by filaments which have passed through the ganglion.

The effect, however, is quite different when the motions of the eyes are harmonious instead of symmetrical:—I term harmonious motion of the two eyes, that which takes place in an analogous direction (as to the right or left); and symmetrical, that which is effected by analogous and similar muscles of opposite sides. The right eye being then directed outwards, and the left simultaneously inwards, or *vice versâ*; that is, the external rectus of the right eye contracting, with the internal rectus of the left;—or again, the motor fibres of the sixth nerve of the right eye exerting their influence, together with those given to the internal rectus from the inferior division of the third nerve of the left,—no sympathetic contraction of the pupil occurs. J. Müller states the cause of this remarkable difference to be, the contrariety of the conditions; but I confess myself unable to perceive the force of his explanation. We have already shown that the inferior division of the motor oculi chiefly directs automatic, and the superior, voluntary movements. Now there is this law, as we shall see below, respecting all automatic motions; that different automatic parts, which receive branches either from the same nerve, or nerves close to one another at the nervous centre, and which I call synergetic, move very readily in combination. Another law is, that if an automatic part is primarily moved, the synergetic automatic parts are moved also; but if a voluntary part and a single automatic one are moved together in the first instance, the automatic synergetic ones remain passive. Hence, when both eyes move in harmony, the voluntary external rectus of one, and the automatic internal rectus of the other, are exerted without any synergetic effect resulting: whereas if both internal recti contract at the same time (either in conjunction with the inferior recti, or inferior oblique, or not), the synergetic automatic parts are likewise moved; that is to say, the iris is called into action and the pupil diminished.

All the movements of the iris are automatic. Authors, indeed, speak of its voluntary motion; but I have, by personal observation, obtained such acquaintance with this supposed power, as to be led to the foregoing conclusion on the subject. So-called voluntary

contraction of pupil takes place: first, if both eyes are turned inwards; and of this we have already spoken: secondly, if, the eyes being open, one, *e. g.* the right, remains stationary, while the left is turned inwards. In this case the left internal rectus is in action with or without the inferior rectus and inferior oblique; the pupil of the same eye is therefore contracted; and the experiments before adduced have taught us, that the action of the motor fibres of one iris excites those of the other to contraction. The grand experimental argument in favour of the voluntary motion of the iris is, thirdly, that if the palpebræ of one eye, for example, the left, be shut, the pupil of the right (remaining open and unmoved) contracts. This, however, only occurs when the left eye is moved inwards; and never when it is kept still, or, as can be done very little, is attempted to be directed outwards. The last is* therefore evidently identical with the second case; and it becomes clear that the exertion of volition only affects the iris secondarily, *i. e.* through the medium of the muscles of the globe.

Finally, the action of the muscles supplied by the inferior division of the motor oculi is intimately connected with irritability of the retina and optic nerve†; for if the third nerve is overstimulated, so that the eye is involuntarily turned inwards, such irritability of retina supervenes that the subject shuns ordinary daylight. Thus, a man, after receiving a blow on the head which caused internal strabismus of the left eye, with diplopia, became affected with photophobia on the same side, and the least daylight was insupportable; yet the retina was so far healthy that he recognised both remote and near objects with facility. On the contrary, when the retina is paralytic, not only the motions of the pupil, but those of the muscles which turn the eye inwards, are impaired, and the external rectus consequently everts the organ. An outward squint then becomes occasionally an earlier symptom of amblyopia, amaurosis, or extreme morbid myopia, than paralysis or even sluggishness of the iridal movements. Two cases of this kind have occurred to myself, in which, relying upon this symptom only, I pointed out their disease to men previously ignorant of it. In another case, that of a female, the outward-squinting eye was totally amaurotic; and in a girl of eight years old it was morbidly myopic. Yet external, like internal squint, is also sometimes caused by long-continued habit, as in a man of my acquaintance, aged 40, who enjoys perfect use of both eyes, but squints outwards with the left. The complaint arose from his labouring, when five years old, under a tumor of the internal wall of the orbit, thrusting the globe outwards; the tumor was, however, so successfully extirpated at that period that not a trace of it remained, though the morbid condition of the external rectus muscle was permanent.

The foregoing theory,—that the superior division of the motor oculi governs the voluntary motions of the globe; and the inferior, the involuntary,—is easily deducible from the systematic arrangement of the muscles. The muscles chiefly voluntary (and I use the expression because every muscle of the body may, under certain conditions, exhibit automatic action, whilst the automatic muscles are either altogether independent of, or from exceedingly unusual causes only, are subjected to volition), are: the external rectus, directed by the abducens nerve; the superior oblique, by the pathetic; and the superior rectus, by the superior division of the motor oculi. Those chiefly automatic are:—the internal and inferior recti, and inferior oblique governed by of the inferior division of the motor oculi. The whole globe, in respect of the points at which the muscles* are attached to it, is then, as it were, surrounded by a circle; of which the upper and outer portion is made up of muscles chiefly voluntary, and the lower and inner portion of those chiefly automatic. The two mainly voluntary recti, the superior and the external, are antagonized by the two, chiefly automatic, the inferior and the internal; while the voluntary superior oblique is in the same way opposed to the automatic inferior.

* Roget no doubt used this method; for he states that iridal motion took place upon the mere voluntary adaptation of the eye for vision of near and remote objects. See Graefe and Walther's Journal, vol. iii.

† Stromeyer very properly adverts to this fact. See Goettinger gelehrte Anzeigen, 1836.

* The external part of the retractor or suspensory muscle in the horse is supplied by branches of the abducens nerve; the internal, by some from the inferior division of the motor oculi; so that this same difference exists, and holds good of all the muscles of the globe.

The fact that the eye is readily moved inwards voluntarily, seems at first sight to militate against our theory; but not so. For on comparing the automatic muscles of the globe, we shall find the internal rectus is the one most under the influence of the will; and next the inferior rectus; while the inferior oblique seems exclusively automatic. We shall have another opportunity of proving that this inequality of automatic disposition exists in other muscles of the body also; and that the principally automatic muscles represent flexors and the voluntary, extensors.

The automatic action of the ocular muscles is intimately connected with that of the iris and retina; indeed, throughout the body automatic actions in no instances, stand alone, but are always harmoniously combined, so as to promote one determinate function of an organ or system of organs. It cannot, indeed, be questioned, admitting the phenomena we have described, that the action of the muscles supplied by the inferior division of the motor oculi is closely connected with contraction of the pupil. Palmedo* contends that it is the sole cause, on the ground that we habitually contract the pupil in inspecting near objects; but if so, we naturally inquire why the same occurs when we look at a distant object,—during sleep,—and if we fix the eyes on no external point.

*The pathetic or fourth cerebral nerve—mode of dividing it in the living animal—effect of irritating it in the recent subject—Nature of branch to tentorium cerebelli.*

The pathetic nerve is so slender and concealed in the base of the skull, that it is scarcely possible to institute a satisfactory physiological examination of it. To divide it within the skull of a living rabbit, the neurotome is inserted through the integuments and bone immediately in front of the ear, in the plane of a horizontal line bisecting the orbit equally; and the edge being turned back, it is advanced to the median line of the base of the cranium. At this point, when the fold of the dura mater is recognized by its softness to the finger, the instrument being somewhat elevated, the nerve is cut through at one stroke. The animal, which previously lies quiet, cries vehemently on the fold of dura mater being touched; but whether this is in consequence of sentient power in the pathetic nerve; or from the fifth, covered as it is by the fold in question, being compressed, cannot be ascertained.

The bodies of dogs and cats, while irritable, clearly demonstrate the motor power of the fourth nerve; for after removal of the brain, the globe is rotated downwards if the nerve is irritated; and this action of the superior oblique muscle may be actually seen, if the upper wall of the orbit is very quickly removed after death. The experiment succeeds best in the rabbit. As to the combined action of the two superior oblique muscles, the reader is referred to what is stated, under the head of the abducens nerve.

The branch to the tentorium, which Arnold, at first*, considered to come from the pathetic; and afterwards,† from the first division of the fifth; and Bidder‡ attributed to the pathetic, must be classed with those, by no means infrequent filaments, which ramify upon the parietes of various sinuses of the dura mater; and, like all the nerves of vessels, is of compound origin; one portion coming from the soft nerves accompanying the vessels, and the other from the trigeminal and pathetic. Chassaignac§, who agrees in vindicating the compound origin of the nerves of the dura mater, derives the ramus tentorii more particularly from the ophthalmic division.

[To be continued.]

* De Iride. 1837.

* Diss. de Parte Cephal. Nervi Symp. 1826.
† Der Kopftheil des Veget. Nervensyst. 1832; and Icones Nerv. Capitis. 1834.
‡ Neurolog. Brobacht. 1836.
§ French Trans. of Swan on the Nerves. 1838.

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In the Minute-Book of the Court of Assistants of the Barber Surgeons' Company, under the date of July 13, 1587, the following notice appears:—"It is agreed, that if any body which shall at any time hereafter happen to be brought to our hall, for the intent to be wrought upon by the anatomists of the Company, shall revive or come to life again, *as of late hath been seen*, the charges about the same body so reviving shall be borne, levied, and sustained, by such person or persons who shall so happen to bring home the body, and who, further, shall abide such order or fine as this house shall award."

On St. Swithin's day, in the year 1743, died "in earnest" the wife of one Kirkeen, who was twice at Dublin ready to be buried, but came to life to her husband's great disappointment; who, fearing the like accident, immediately put her into a coffin, had it nailed up, and buried her the next day.—*Gentleman's Magazine.*

## RECORD OF CASES.

By Thomas Mayo, M.D. F.R.S.
Physician to the Infirmary of St. Marylebone.

[Continued from p. 200.]

### *On the Plea of Insanity in its relation to a recent Trial.*

Insanity, so far as it may be predicated of the state of mind under which an action is performed, involves irresponsibility. Moral insanity, viewed as one of its species, or, more correctly, as a train of moral symptoms occurring in the course of it, must also involve irresponsibility. I do not question the above propositions; nor do I recommend any sanguinary legislation, which should submit to punishment these irresponsible states; but I would invite attention to some views, which I published in the Elements of the Pathology of the Human Mind, in 1838, and to some distinctions founded on those views, as calculated to limit this immunity from punishment, and to define the bounds which the public good prescribes to it.

In the work alluded to, I endeavour to distinguish moral insanity, properly so called, or that group of moral symptoms which always accompany the intellectual deviations of the disease, from another condition of the human mind, not *implying* any *intellectual* aberration, but one in which the moral principle is as vitiated and unsound as the intellectual principle is in insanity. This condition of the human mind, distinguished by the absence of intellectual aberration from insanity, is not distinguishable, by any test which the psychological laboratory can supply, from vice. It is, indeed, truly *vice in its highest form*, and being thus exaggerated, it certainly presents aspects analogous to those which the moral phenomena of insanity assume. The very bad man, to the common sense and sympathies of society, appears a madman, and though his case eminently requires punishment, because fear of consequences is his only moral check, he is liable, from the very strangeness imparted by atrocity, to *escape* punishment.

A melancholy illustration of the importance of these views, has, to all appearance, been recently afforded by the acquittal of Captain Johnstone, under a charge of murder of several of his crew. Melancholy, I say, for if violence and brutality are permitted to escape unpunished, where the unavoidable possession of despotic power gives them amplest opportunities of gratification, the state of that noble body of men, the seamen of Great Britain, is to be deeply deplored.

No better evidence can be obtained of the want of a public prosecutor, than the otiose way in which the Attorney-General conducted the case of the Crown against Captain Johnstone. Though not a single medical witness was adduced by his counsel in support of the plea of insanity, on which Mr. Jervis defended him, (a pretty clear proof that none could be *obtained*,) the Attorney-General contented himself with a bare statement of the facts in his brief, and did not allow the slightest whisper of his own opinion to transpire; a proceeding certainly calculated to produce on the minds of the jury a deep impression, that the prisoner was, at least, in *his* opinion, innocent.

The following questions appear to me to contain points of importance in this case, though mystified by the counsel for the defendant, and slighted by the counsel for the crown.

1. Whether, under the impression that his crew intended to put him to death, Captain Johnstone acted against them from an apprehensive and vindictive feeling rendered inconsistent as well as violent by the stimulus of drink, or was further actuated by a state of insanity?

2. Whether there was evidence of more eccentricity of conduct *in degree*, than might be explained on the first of the above suppositions, unassisted by the second?

3. Whether *in kind* the conduct pursued by Captain Johnstone was not more akin to cruelty, inflamed by wine and fear, than to the ordinary workings of insanity?

4. How far the deliberateness with which Captain Johnstone provided against any public inquiry into his conduct, and sheltered himself prospectively against penal consequences by obtaining the attestation of witnesses in his favour during the voyage—*e. g.* occasioning Spence, one of the crew, to enter on the log, that Reason,

one of the victims whom he slaughtered, died of a fit—should have been viewed as the indication of a very bad man, and inconsistent with the supposition of lunacy ?

According to the answers which these questions might have received on a judicious sifting of his case, Captain Johnstone ought to have been, as he was, acquitted as a maniac, or hanged as a murderer, and thereby treated in conformity with an assumption in the work alluded to, that the brutal habit of mind, wild and eccentric as it may be, is still controllable by fear of consequences, and therefore may furnish a preventive example to similar minds. But these are the grounds of judicial punishment.

[To be continued.]

*** The acquittal of the prisoner, in this case, appears to have been a matter of expediency. If the Attorney-General had shown in prosecuting half the vigour displayed by Mr. Jervis in defending the prisoner, we believe that the result would have been very different. For instance, he might have made a strong case of our correspondent's fourth query. Who ever heard of a really homicidal monomaniac attempting to shelter himself, in the way in which the prisoner did, prospectively against penal consequences, by causing a false entry to be made in the log ? Was not this the act of a criminal perfectly conscious of his guilt and its consequences ? If not, what distinction can possibly be drawn between a murderer and a homicidal lunatic ? We do not find in homicidal mania that the individual accuses others of the crime ; yet the prisoner here made the charge against his own crew, and attempted to support it, until circumstances proved him to be the really guilty party. The evil, we fear, cannot be suppressed, until we have common-*sense* instead of *common* juries to deal with such questions. We may then find men inclined to put down this mawkish feeling of ill-judged humanity, in which the sympathy is wholly for the murderer, and not for the victims of his brutal violence.

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# MEDICAL GAZETTE.

FRIDAY, MARCH 6, 1846.

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A VERY interesting document has been lately printed by order of the House of Commons,* showing for the three years ending 1844, the number of candidates examined in the United Kingdom for diplomas or licenses in medicine and surgery,—the numbers of such diplomas or licenses actually granted ; and a definition of the rights and privileges which they have conferred upon their possessors. We purpose giving on the present occasion a general summary of the results from the returns of the Universities and Colleges of England. It appears that during the three years above mentioned, the Royal College of Physicians examined 161 candidates, and granted 160 licenses,—the rejections therefore being only 0·62 per cent. Out of this number 123 were extra-licenses, conferring only the privilege of practising medicine out of the London district. The Royal College of Surgeons examined 1776 candidates, and granted 1576 diplomas, the rejections being 1·12 per cent. The privileges conferred by the diploma are, that the individual becomes a member of the College, acquires a right to the use of the Museum and Library, and the privilege of attending all the lectures delivered at the College. By statute, 4 Geo. IV. c. 5, justices are required to appoint a surgeon to each of the prisons in England and Wales, being a member of one of the Royal Colleges. The statute, 6 Geo. 4th, c. 50, exempts members of the College from serving on juries :—there is, however, no exemption from serving in the militia, although this should undoubtedly have

* On the motion of Mr. Wakley.

been introduced. Reference is made to other public and parochial appointments, which can only be filled by a member of this or of some other Royal College of Surgeons. The Charter of 1800 conveyed to the College the privileges and immunities which were formerly possessed by the ancient Corporation of Surgeons,—*i. e.* freedom from serving on juries, inquests, constableships, and from all manner of office within the city of London;—and by the statute 32 Henry VIII. exemption from bearing armour. The powers of the Charter granted in 1843, have, it is well known, given rise to great discussion. Under this Charter the number of members of the Council was increased from 21 to 24, and a new (specially selected) class of members, called fellows, was created, with extended rights and privileges; the fellows to elect the members of the Council from amongst themselves, instead of vacancies being filled up by the Council itself: future members of the Council no longer to hold office for life, but three of them to go out of office annually. The examiners may now be elected from the fellows, and the future examiners hold office during the pleasure of the Council, and not for life. It is needless for us to enter here into the manner in which the powers of the new Charter have been exercised. The great partiality which was shown in the selection of fellows, has created a very strong feeling of dissatisfaction in the profession, as a large number of deserving members of the College have been unjustly set aside; and without having their claims fairly considered, they have been rejected as "mere apothecaries," &c. We are however, unwilling to dwell upon this subject, as we believe there is every prospect of the grievance being redressed under the provisions of a new Charter.

The next return is that of the Society of Apothecaries, from which we learn, that in three years, 1137 candidates were examined, and 953 certificates granted. The rejections thus amounted to 16·1 per cent. The certificate, it is well known, confers on its possessor the right of practising as an apothecary in England and Wales; and it exempts him from serving upon juries and inquests; and, under certain circumstances, from serving any parish, ward, or leet offices.

The average number examined annually by the Society in the three years (379), are but little below the annual average of twenty-nine years (398)*. The rejections have, however, increased. The average number passed yearly in the twenty-nine years was 346; in the three years comprised in the return, 317, and the rejections during the two periods, were as 13 to 16·1 per cent.

In the University of London, out of 114 who underwent the first examination, 72 passed, thus making the rejections 36·8 per cent. On the *second* examination, the examined were to the passed as 67 to 60, or the rejections were 10·4 per cent. It will be found on reference, that the results differ but slightly from those based on a return of five years†, the rejections for the two examination sbeing respectively 34 and 10 per cent. In the three years, 23 candidates were examined for the degree of Doctor of Medicine, and all obtained it.

No rights or privileges are attached to the degrees granted by this University, except that graduates, *being also licensed practitioners*, are eligible to be medical officers of Poor Law Unions. The word diploma is not used in the University, neither does it grant licenses to practise. In a late number of this journal‡, a correspon-

* Vol. xxxv. p. 942.
† Vol. xxxv. p. 942.
‡ Page 349.

dent expressed some surprise at the return made by the Registrar; and put three questions respecting the power of graduates of the University, to affix their signatures *legally* to certificates of lunacy. There can be no doubt that the statement, made by the Registrar, is perfectly correct; and that graduates of the University are not recognised in law as medical practitioners. The powers of the University rest upon a Charter,—those of the College of Physicians and Apothecaries' Society, rest upon acts of Parliament, contrary to the provisions of which, a Charter can never be granted. It would require a special act of Parliament to convert the University graduates into legally recognised medical practitioners. In law, they are neither physicians, surgeons, nor apothecaries; and the questions of our correspondent are therefore soon answered. We apprehend from the express words of sections 45 and 47 of the new Lunacy Act, and from no special exception appearing in favour of the University graduates, that their signatures to such certificates would be as invalid as those of non-professional persons*. This is undoubtedly a great evil; for what can be said of an "Apothecary's certificate," or of the examination upon which it is granted, in comparison with a degree, and the double or treble examination in the University of London? The late Medical Bill would have abolished the absurd distinction which now exists; but until some act is passed conferring well-defined privileges, the University graduate is not in the position of a licensed practitioner of medicine; nor can he legally act as such. The Registrar states that graduates are eligible as officers to Poor Law Unions—a high privilege (!)—but it is accompanied with the proviso that they must also be *licensed* practitioners. We trust that before long, the anomalous position in which the University graduates stand, will call for some special legislative measure. They are, taken as a class, accomplished men, and well qualified to practise medicine in any part of the United Kingdom.

The returns from the Universities of Cambridge and Oxford require but a few remarks. These returns show how little the two Universities are adapted for medical tuition, or for conferring the privileges of medical practice. In the three years, the degree of Doctor of Medicine was conferred, at Cambridge, on *ten* persons, and licenses to practise (to Bachelors of Medicine) were granted to *nine* persons. We learn that licenses were refused to some candidates, but no record was kept of the number. At Oxford there were, in three years, *six* candidates for the diploma, and the whole of them succeeded in obtaining it. There were eight candidates for a "license" to practise, and this was granted to seven. The Oxford diploma confers the right of voting in the Convocation of the University.

These extracts, which are for the present limited to England and Wales, enable us to draw the following conclusions. The number of persons licensed to practise amounted, in three years, to 2,721, namely, 1,576 surgeons, 953 apothecaries, and 192 physicians; thus giving, on an annual average, 907 licensed practitioners—a number which appears to be far greater than the rate of mortality among existing members of the profession, or the progressive increase of population in England and Wales, can render necessary. The value in which the diploma of the College of Surgeons is held, is indicated by the large number granted, although it is worthy of remark, that the number in the last year of the return, 1844, was

* See vol. xxxvi. p. 1430.

but little more than one-half of those granted in the first year. The same falling off was not observed among the apothecaries; the extreme years of the return were nearly equal in respect to the number of certificates issued. Indeed, the annual supply to this department of the profession appears to have been very uniform and steady during the last thirty years.

In another article we intend to compare the English with the Scotch and Irish returns.

## Reviews.

*The Descriptive and Physiological Anatomy of the Brain, Spinal Cord, and Ganglions, and of their Coverings. Adapted for the use of Students.* By Robert Bentley Todd, M.D. F.R.S. 8vo. pp. 284. London: Sherwood. 1845.

The necessity that the education of those entering the profession should in some measure keep pace with the advance of the scientific knowledge of the day, is undeniable; still, we are of the number of those who believe that a certain limit should be set to the amount of erudition which the student is expected to acquire during the three years of his hospital studies, and we cannot help believing that the number of "manuals," "elements," and other works, designed for the use of pupils, has been, for some years, increasing to an unnecessary and alarming extent. Formerly, a thoroughly practical knowledge of anatomy acquired in the dissecting-room, a competent acquaintance with disease as observed in the wards of large hospitals, and a fair insight into the opinions of the principal authorities upon medicine and the collateral sciences, was considerd a sufficient groundwork upon which the student might be allowed to commence the practice of the healing art; and it cannot be denied that, under this system, hosts of able surgeons and scientific physicians were given to the world. But, at present, so large an acquaintance with books has been made an indispensable requirement in the system of medical education that it appears almost impossible the student should acquire such an amount of abstruse knowledge within the narrow limit of six and thirty months, except either by a neglect of the all-important duties of the wards and dissecting-room—by a system of "cramming" as useless as it is unprincipled—or by a degree of mental labour which must almost inevitably prove fearfully detrimental to the health of the individual. It is true that many of the works at present recommended for the use of students, are, in themselves, of great value, but we should be glad to perceive that a certain and moderate limit was placed both to their number and their size, and we hope to find that teachers will not consider it necessary to place in the hands of their pupils fresh manuals treating of mere subdivisions of the subjects of study, at a length under which the whole of each of those branches of knowledge was formerly imparted. Should the present system continue to gain ground, the student will learn to regard the pile of manuals arranged before him not as easy steps by which his progress to the temple of knowledge is to be facilitated, but as forming, in their collective bulk, a tremendous barrier, which he can only hope to surmount by the earl sacrifice of his best energies.

We have been led to make these remarks by the almost simultaneous appearance of several large and important works, written expressly for the use of students, among which Dr. Todd's octavo of 280 closely-printed pages, which are principally devoted to the minute structure of the brain and its appendages, holds a conspicuous position. The value of several of these works must be received as an excuse for their publication, and our remarks are rather directed to those who propose to become the authors of manuals than to those who have already written works of that description; still we would entreat teachers who are capable of accounting for the pallid cheeks and sunken eyes of their hard-working pupils, to ponder before they add yet more to the immense task of reading to which those unfortunates are already doomed.

Dr. Todd informs us, that "the following pages are a reprint of the article

'Nervous Centres' in the Cyclopædia of Anatomy and Physiology, with several additions, and some alterations suggested by its re-perusal as it passed through the press." The reader will also observe, that much of the more novel material of the work has also appeared in the last part of the Physiology, now in course of publication, by Dr. Todd and Mr. Bowman. As most of its contents have therefore been for some time before the profession, we think it unnecessary to enter into any minute analysis of the present work. Its pages bear that stamp of judicious literary, and laborious practical, research, which characterise most of Dr. Todd's writings; and it must be considered as a fairly complete exposition of the present state of knowledge of the anatomy of the nervous centres. Still, we conceive that its appearance does not at all throw into the shade Mr. Solly's valuable treatise upon the brain. Each of these works has its peculiar excellencies; the latter is especially conspicuous for the light which it throws upon the mode of origin of the cerebral nerves, and the fibrous arrangement of the white cerebral matter; the former is rich in facts relative to the microscopical structure of the nervous centres, particularly of the grey matter.

The following extract, descriptive of the Pacchionian bodies, will be deemed interesting, although its arguments do not appear to us to be, by any means, perfectly conclusive.

"When examined by a microscope, each of these bodies appears to consist of a mass of minute granules enclosed in a membranous sac; when the body is pediculated, its stalk exhibits a series of striæ which take the direction of its length, and probably result from longitudinal folds of the membrane which forms it. Dilute acetic acid causes them to swell, and gelatinifies the bodies, and sometimes displays epithelial scales upon the surface of the membrane which covers them.

"The following explanation of this structure may be offered. The primary deposit of granular lymph takes place along the vessels of the pia mater. The small bodies thus formed push the arachnoid membrane before them as a sac or covering; in some instances the granular mass is only partially covered, and then it causes merely a slight projection on the surface of the visceral layer of arachnoid; but in others the mass is completely covered, and a stalk is gradually formed; and when several granular masses have been deposited immediately contiguous to each other, they may all be attached in a cluster to the same stem. The fact that the membranous sacs of some of the bodies have epithelial particles upon their surface is sufficient proof that they are derived from arachnoid membrane. If this be admitted, then it seems impossible to come to any other conclusion than that the pia mater is the seat of the primary deposit, and this opinion is confirmed by the fact that we meet with the Pacchionian bodies on the internal processes of the pia mater, when (where?) we have no evidence of the existence of arachnoid membrane. Or it might be conjectured that these bodies indicate a degenerate condition of the elementary particles of the superficial layer of the grey matter of certain convolutions, produced by frequent irritation.

"*Are the Pacchionian natural or morbid structures?* The great frequency with which these bodies are met with in the various situations above mentioned, has induced many, even in the present day, to regard them as normal structures, the physiological office of which is as yet unknown. But there are many facts which strongly militate against such a conclusion. In the first place, it may be observed that Pacchionian bodies never occur in the earliest periods of life. In the course of a long experience in anatomical investigations, I have never seen them at a period antecedent to six years. The brothers Wenzel, who made a series of special examinations with a view to determine this question, make the following statement:—In children, from birth to the third year, these bodies, if they ever occur, must be very few. From the seventh to the twentieth year they sometimes are numerous. From the latter period to the fortieth year their number is considerable, and the nearer we approach the fortieth year the greater does it become. Lastly, from the fortieth to the one hundredth year, these bodies are found in great numbers. It must be further remarked that even at those periods of life when the Pacchionian bodies are found in the greatest numbers, cases frequently occur in which no trace of them can be found. There is, likewise, the greatest variety, as to their number and size, in different individuals of the same age.

It has always occurred to me to find them most numerous in cases where I had reason to know that the brain had been subject to frequent excitement during life. In persons addicted to the excessive use of spirituous liquors, in those of irritable temperament and who had frequently been a prey to violent and exciting passions, they are almost uniformly highly developed.

The Pacchionian bodies are peculiar to the human subject; nothing similar to them has

been found in the inferior classes of animals.

In reference, then, to the question, what is the nature of these bodies? I have no difficulty in stating my opinion that the evidence greatly preponderates in favour of their morbid origin; that they are the product of a chronic very gradual irritation due to more or less functional excitement of the brain itself. It is not unlikely that the friction to which the opposed surfaces of the arachnoid are continually subjected in the movements of the brain, especially when they are of a more rapid and violent kind, as under states of cerebral excitement, may contribute to the development of many of the appearances connected with these bodies. The opaque spots which are of such frequent occurrence upon the surface of the heart, may be quoted as an example of morbid change very commonly met with, and resulting probably from the friction against each other of opposed serous surfaces. Were the Pacchionian bodies normal structures, they would not be so frequently absent from brains which afforded every other indication of being in a healthy state; nor shall we find opacity of the arachnoid (a decidedly unhealthy condition) so commonly co-existent with the full development of them. Again, were they a necessary part of the healthy organism, we might expect to find them more constant as regards size, number, and the extent of surface over which they are placed."—(pp. 57-60).

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*Lectures on Natural and Difficult Parturition.* By EDWARD WILLIAM MURPHY, A.M. M.D. Professor of Midwifery, University College, London, &c. &c. 8vo. pp. 263. London: Taylor and Walton. 1845.

IT may be considered that, where so large a number of elaborate and important works have, for many years past, been contributed by writers of the highest authority to the lists of our obstetric literature, the publication of a new treatise on midwifery is wholly superfluous; and, if the question turn upon the absolute necessity for such a work, we fear that the answer must be given decidedly in the negative. Still, the treatise before us deserves attention upon the principle that it is almost impossible an observant and experienced practitioner should indite a work upon subjects to which he has devoted his almost undivided attention for a long series of years, without adding something that is practically useful to their materials, or placing some few, at least, of their details in a more novel or a clearer light: and this principle will, we believe, generally hold good, however familiar the subjects may have become, and however frequently their windings may have been traced and retraced by the steps of previous investigators. But, whether the total amount of labour thus expended is, in reality, well bestowed, or is likely to meet with those rewards which well-directed toil so often claims in vain, is a question which should rest with the author rather than with the critic.

The first four chapters of Dr. Murphy's work are devoted to the obstetric anatomy of the pelvis, and to the mechanism of parturition; the fifth and sixth to "the management of natural labour." These two chapters will be found of great value to the student;—they will bear comparison with the admirable lectures of Dr. F. Ramsbotham, upon the same subject. The remaining seven chapters treat of laborious labours and obstetric operations and instruments. At the end of the work is an excellent summary of the principles and rules, which the author has previously advanced, arranged as aphorisms.

A brief analysis of one or two important subjects, which Dr. Murphy appears to have been at great pains to illustrate, will direct the attention of our practical readers to that portion of the work to which we are disposed to attach most importance.

In commencing the subject of difficult labours, the author makes some very judicious observations on the comparative results of disproportion between the pelvis and the fœtal head in persons of opposite constitution. After contrasting those strong, muscular, masculine women, in whom the pelvis is unusually ossified, who have often great rigidity of the passages, and with whom we sometimes find an almost undilatable rigidity of the os uteri, with those persons of feeble constitution and leucophlegmatic temperament, who are perhaps the subjects of hysteria, and are therefore nervous and excitable, of fair complexion, soft skin, and relaxed tissues, he goes on to observe:—

"It should be also noticed, as a constitutional difference, that, in these feeble habits, the uterus does not possess the same energy; it is sooner fatigued, and exhaustion would

be more readily induced, if its action were greatly prolonged, than in the former class of patients. You perceive, therefore, that two cases, which present precisely the same apparent amount of resistance to the passage of the head, may be perfectly opposed in every other respect, and consequently that the same treatment, if applied to both, might be mischievous to either. It is essential to point out this to you, because rules of practice are too often laid down by authors as being applicable indifferently to all cases which present the same amount of disproportion, and hence a great deal of useless controversy has sprung up as to those rules, in consequence of the opposite experience of the disputants; for example, if the question be as to the rule when instrumental aid is called for. The practitioner who meets with the diseased pelvis as the chief cause of difficulty, and living perhaps in a manufacturing town, or other unhealthy district, who finds the majority of his patients to be those we have just described to you, such a practitioner would find that he could not suffer his patient to continue in labour beyond a certain period without great hazard to her life, and to his own reputation. He would also have it in his power to deliver his patient with the forceps successfully, where the disproportion was such, that, had it been the masculine pelvis, he would have done irreparable injury. It is not surprising, therefore, that his opponent, accustomed to a healthy district, and meeting with cases where the chief difficulty arises from a pelvis of the latter kind, should wonder and protest against such temerity. The judgment of each, as to the rule, may be correct, but the experience upon which it is founded being different, the opinions must of necessity be opposed when they attempt to argue *a particulari ad universale* (as logicians have it), without exercising a just discrimination on those points of difference that I have attempted to lay before you."

The author enters into an ample discussion of the important question of whether, in cases of protracted labour, where the head is making extremely *slow advance*, the child being alive, and the mother retaining her strength, instrumental interference should be attempted. After showing how completely the opinions of some of our highest obstetric authorities are opposed upon this question, he proceeds to state his belief that the rule for practice upon this point may be derived from facts without reference to opinions. Bearing in mind that the great and leading principle in these difficult cases is to preserve both mother and child, if possible, from injury, he thinks it is in our power to compare the results of cases where the forceps has been applied with those where it has been withheld, and thus determine the practice which presents the greatest success. He first directs attention to tables derived from reports given by British and Foreign practitioners, in which the total number of cases given by each, the number of forceps operations, and the results to mother and child, are presented. In these tables the number of forceps operations in British practice is 138; in 35 of which the child was still born, being in the proportion of one in every fourth case. In the French reports, 41 children were lost in 173 forceps operations, being one in four, nearly. In the German reports of Riecke and Klugè, which state the mortality of the children, the number of their forceps operations united is 2808; the deaths of children, 650; being also one in four, nearly. Thus, then, we may conclude that one-fourth of the children delivered by the forceps are lost. What is the result when these protracted cases are left to themselves? Is the mortality increased? The author does not think such will be found to be the case. In order to determine this question, he refers to tables, which have been given by Dr. Collins, to show the duration of labour in all the cases he reports, and the duration of labour in forceps cases, and in those which were preternatural. From these data it is found that of 430 cases, in which labour lasted 24 hours, or exceeded it, 324 of them were natural cases, delivered without assistance, and that of these 324 the children were lost in 61 cases, which would be about one in five cases. The results of Dr. Murphy's own experience on this subject is nearly similar. He then adds:—

"In 5699 cases, 218 were protracted to this degree (24 hours and upwards); and of these, 175 were delivered naturally, and 41 children, not putrid, were still-born, being one in four nearly. Thus, then, you perceive that, taking the widest, and, we would say, the fairest view of this question, the proportion of still-born children in these difficult and protracted cases is nearly the same, whether the forceps be employed or otherwise; that the difference, if any exist, is in favour of Dr. Collins's practice of leaving these cases to nature."

But now, with regard to the safety

of the mother. In investigating this important part of the subject—

"Our data are more limited than those which assisted us in the former question, because, in the French reports, there is a most ominous silence regarding the mortality of the mothers. In the German reports, we are limited to that of Dr. Riecke, who gives 127 deaths in 2740 cases, being 1 in 21, nearly. But take Churchill's more extensive researches on this question. He states, that 'amongst the French and Germans, in 479 cases, 35 mothers were lost, or about 1 in 13.' Dr. Churchill gives the proportionate mortality in British practice as 1 in 21; but you perceive that, in the comparative view we have placed before you, there were 10 deaths in 138 cases, which is about 1 in 13. Compare this with the results where the cases have been left to the natural efforts. In Dr. Collins's report, there were 25 deaths in 324 cases, or 1 in 13; precisely the same as where the forceps had been used. Among those cases which I have observed, there were 8 deaths in 175 cases, or in 22. With regard, then, to the second question, the mortality of the mother, take the estimate in any way you please, and you must arrive at the same conclusion, viz. that the mortality is certainly not increased when these cases are not interfered with."

The author believes that we might even go further, and say that the actual mortality is diminished, when it is taken into account that, in a certain proportion of the fatal cases, the women died of puerperal fever. Upon these facts he grounds the axiom, that "the safety of the mother or child cannot be advanced as a reason for instrumental delivery, when the head is making a very slow but a certain progress." He adds, however, that patients will sometimes be met with so feeble in their habits that they will not bear a protracted labour without risk of exhaustion; in such cases you dare not temporise, you must deliver, although the head is making a tardy progress.

In the succeeding chapter, Dr. Murphy proceeds to investigate the propriety of employing the forceps in cases where *the head is impacted in the cavity of the pelvis;* and here he arrives at the conclusion, that—

"When the head is thus impacted, it cannot be delivered by the forceps without such injury to the passages as might endanger the mother's life; that the probability of preserving the child's life is not sufficiently certain to justify an attempt which might be so hazardous; that, in the great majority of these cases, the death of the child takes place naturally, and it may be removed before symptoms dangerous to the mother present themselves; and lastly, that if it should happen that the reverse occurs, and danger to the mother—whether from exhaustion, or extending inflammation—is indicated before the death of the child, that then perforation is called for, rather than render the risk to the mother a certainty, by the dangers that result from a forcible extraction by the forceps."

In illustration of the greater impunity from the danger of vesico-vaginal fistula in those cases which are left to nature, the author mentions that Dr. Collins records only *one case* of this kind in the whole of his report of 16,654 cases; that was a case of perforation: "consequently this accident never was found among those cases which were delivered naturally." The only case of fistula which occurred in the 5,699 cases previously referred to, was one in which the author employed the forceps to deliver a child that presented the forehead.

It will probably be found, upon perusal of Dr. Murphy's lectures, that the number of original facts which they contain is by no means large; but this is evidently attributable not to any want of acuteness and observation on the part of the author, but to the extreme care with which most of the subjects treated of have been investigated and sifted by previous writers. The work contains several chapters which deserve the attention of practitioners; and the student will find it replete with accurate and lucid instruction.

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*A Practical Treatise on Abdominal Hernia.* By Thomas Pridgin Teale, F.L.S. Fellow of the Royal College of Surgeons, and Surgeon to the Leeds General Infirmary. 8vo. pp. 383. London: Longman. 1846.

In the present day, when new observations are continually appearing in illustration of every form of disease, rendering it necessary that even the most apparently established of the old views should be reinvestigated and adapted afresh to the standard of our enlarged knowledge, the last new treatise on any practical subject in medicine or surgery must always prove, to a certain

degree, acceptable and useful to the profession;—highly valuable if it establishes new and well-sustained principles, and scarcely less intrinsically available if it embodies in a comprehensive form all the most important of the facts germane to the question which have for some years previously appeared, scattered through the various European periodicals, but which are not to be found in standard works upon the subject. Of the latter class is the interesting work before us. Not apparently professing to aim at originality, it embraces, within a moderate compass, a very large number of well-arranged observations and opinions illustrative of abdominal herniæ in all their forms, presenting altogether a very ample view of the present knowledge upon this subject. In perusing the work, it appears quite evident that the whole of its contents have been selected and arranged by a surgeon well and practically acquainted with most of the lesions and operations under discussion; but still it cannot but strike the reader that the original observations scattered through its pages are singularly few, principally consisting in brief allusions to five or six illustrative cases occurring in the author's practice. This must have arisen either from an intention to render the work almost in the strictest sense of the word a compilation, or from an absence of egotism in the author, as commendable as it is rare.

The character of the treatise being such as we have stated, it will not be requisite that we should enter into a full analysis of its contents; we shall therefore do little more than refer our readers to a few remarks which may prove of practical value.

The following useful hint is not always acted upon:—

"The object, in this instance," (the author is describing the mode of employing the taxis) "in relaxing the muscles, is not to diminish the intensity of the stricture, but to relieve the state of tension in which the walls of the abdomen may be; for in most instances the boundaries of the constricting aperture are formed by aponeurotic and osseous structures; and, consequently, this aperture is incapable of being altered in size by a relaxed or contracted state of the muscles. In this respect, however, the practitioner rather loses than gains advantage in relaxing the abdominal muscles, for it is much easier to push a substance through an opening of a given size in a tense than in a relaxed membrane. M. Lisfranc recommends that the walls of the abdomen should be placed in a state of moderate tension, which he says facilitates reduction. I have, on several occasions, succeeded in reducing herniæ by placing the aponeuroses in a state of tension after I had failed in my attempts whilst the muscles were relaxed. But, as a general rule, it is better, in the first instance, to secure the advantages which have been described as resulting from relaxation of the muscles; and afterwards, our attempts having failed, the taxis may be repeated whilst the parts are moderately tense." (p. 99).

The following caution to be observed in the diagnosis between hydrocele and scrotal hernia, although by no means new, is not always attended to:—

"It should be borne in mind that transparency is not an unequivocal sign of hydrocele. Arnaud was consulted respecting a large tumour, extending from the abdominal ring to the lower part of the scrotum, the upper part of which was separated from the lower by a circular furrow. A surgeon, who had seen the case, affirmed that the lower tumour was a hydrocele, 'because the light of a candle passed through it.' It was accordingly proposed to tap the supposed hydrocele, under the supposition that the upper part of the tumour, regarded as hernial, would thereby admit of being more easily reduced. Arnaud, finding that the patient complained of the same kind of sharp pain on pressure upon the lower as upon the upper part of the tumour, which by all was regarded as a rupture; and considering that the gut, if greatly distended with air, and the skin of the scrotum consequently attenuated by excessive distension, might admit of as much translucency in the tumour as if it contained water; inclined to the opinion that the lower tumour was only a part of the upper one, and objected, therefore, to the puncture being made. The surgeons thus differing in opinion, no operation was performed. In twenty-four hours the patient died; and, on dissection, the opinion of Arnaud was found to be correct. Again, a boy was brought to me, at the Leeds Infirmary, with a tumour of the scrotum, of large size, tense, and elastic: the integuments being very thin, from the distension which it occasioned. On examination by the aid of a candle, it was found to be as translucent as any hydrocele which I had seen. Whilst examining it, I observed that there were two opaque lines, intersecting the tumour diagonally; which, by pressure, were, to a certain extent, made to alter their situation. This circumstance, together with the comparative lightness of

the tumour, and the slightly tympanitic condition which I detected, excited my suspicion as to the disease being a hydrocele, and justified me in treating it as a hernia. The use of the taxis showed that the diagnosis was correct, and that the tumour was a hernia greatly distended with flatus; for, by pressure, the distended bowel was, with some little difficulty, replaced within the abdomen. The opaque lines indicated, most probably, the point of contact of distinct folds of intestine." (p. 253).

The following remarks are just:—

"The diagnosis of the seat of stricture is a subject of great difficulty; and, in most instances, a very vague conjecture only can be formed in reference to it. Attention to the following circumstances may, to a certain extent, assist our judgment.

"In recent herniæ, the sac is not the seat of stricture. In such cases, constriction is produced by the sheath of the femoral vessels, or by the hernial apertures.

"In old herniæ, especially such as have been treated by trusses, the neck of the sac, from having undergone the fibrous transformation, is a probable seat of stricture; but, even in such cases, the constriction may be produced by parts external to the sac.

"When old irreducible herniæ become strangulated, the possibility of stricture, from adhesion within the sac, ought never to be lost sight of.

"In some cases of strangulated hernia, the external ring feels firmly distended by the tumour, and the inguinal canal soft and free from tension. The inference, in this case, is tolerably clear, that the stricture is formed by the external ring. If, on the contrary, the external ring is wide, and the hernia can be moved freely within it, and the inguinal canal is occupied by a firm unyielding substance, it is evident that the stricture is situated at the upper part of the inguinal canal, where it may be formed by the muscular" (surely this must be a misprint) "parts which constitute the internal ring, or by the neck of the sac." (p. 59).

In some parts of his treatise, we conceive that the author has not laid sufficient stress upon questions of considerable moment. For instance, while alluding to the conditions of *strangulation* and *incarceration*, he remarks—

"There is no definite line to be drawn between them, and the former state readily passes into the latter. Such a division, moreover, is of no practical importance." (p. 53).

We must altogether dissent from the above conclusions, believing that a marked distinction may be, and frequently is drawn between the two conditions, and that such discrimination may prove of the utmost importance as influencing practice. In complete strangulation of intestine, the symptoms are usually of a very severe character, and have occurred suddenly; there is evidence that the contents of the hernial sac are tightly constricted, and there is every reason to believe that, unless the intestine be promptly relieved, gangrene will speedily ensue. Upon failure, therefore, of the taxis, it becomes extremely dangerous to defer the operation. In incarceration, on the contrary, which usually occurs in cases of large and old herniæ, the symptoms are generally of a milder character, and are often rather gradual in their accession; there is frequently reason to believe that the constriction at the neck of the sack is not considerable, and that the symptoms mainly arise from congestion of the vessels of the protruded parts, not originally dependent upon the stricture. The persons in whom this condition of parts exists are frequently advanced in life, and in a state of health highly unfavourable to the operation. We admit that in cases of this description the intestine may readily pass into a state of strangulation, but appropriate treatment will frequently enable us to reduce the hernia; at a period, too, when reduction by the taxis in cases of strangulation would be impracticable or unsafe. We have seen instances of incarceration of old scrotal herniæ, where reduction was accomplished fully a week after symptoms had commenced, the patients recovering so rapidly that it was evident the intestine had sustained no very serious lesion; this, of course, could rarely occur in a case of strangulation. The practical distinction which we should draw between the two conditions is this. In cases of strangulation the operation cannot be safely deferred after the taxis and other means of reduction have been fairly tried, and an interval of a few hours from the time at which the bowel became strangulated has elapsed. In instances of incarceration, on the contrary, the taxis may be employed repeatedly; constitutional and local treatment may be deliberately employed, and an immediate operation is not absolutely called for.

We observe that, in describing the manner in which a portion of omentum should be removed in cases of epiplocele, the author does not allude to the fact, that if, instead of removing the mass by a single stroke of the knife, the caul be carefully unravelled, and then divided by the scissors, hæmorrhage is frequently prevented, and the application of numerous ligatures is in this way avoided.

The author is evidently well aware of the fact, that the most frequent cause of death, after operations for hernia, is diffuse peritonitis of an asthenic character; but we do not think that his cautions upon this point (p. 145), commencing with the words "inflammation within the abdomen may sometimes require early attention after the operation," are given with sufficient force. In writing for the instruction of students, it is not enough that an important fact should be merely stated and reasoned upon in ordinary language; it is requisite that it should be so strongly and emphatically proposed that the most casual reader may not fail to perceive how absolutely necessary it is to bear the doctrine in remembrance.

We strongly recommend Mr. Teale's treatise, as a valuable collection of facts calculated to prove of great utility to students and junior practitioners, and fully deserving of perusal by more experienced men. It is a work of considerable research, and several of its chapters contain remarkably ample data upon the subjects treated of. Among these we would particularly direct attention to the chapters on "Intestinal Fistula consequent upon gangrene, or wounded intestine;" on the operation of dividing the stricture without opening the sac: and on the various operations which have been proposed for the radical cure of hernia. The work is illustrated by some admirable wood-cuts.

## Proceedings of Societies.

### MEDICAL SOCIETY OF LONDON.

Monday, January 26, 1846.

Dr. Theophilus Thompson, President.

Mr. Hilton read a case of tetanus, which will shortly appear in the Medical Gazette.

In the course of the observations on this case, Mr. Hilton expressed his opinion that tetanus was essentially an inflammatory condition of the spinal cord.

February 2, 1846.

Mr. Pilcher inquired of Mr. Hilton what reasons he had for thinking that tetanus was an inflammatory condition of the spinal cord? This opinion had been promulgated by Mr. Baynton, and believed to be true by him (Mr. Pilcher) for some years: he was now convinced, however, that it was founded in error. That the disease was removed by antiphlogistic treatment was no proof that it was inflammatory.

Mr. Hilton, in reply, enumerated various appearances, evidently, as he thought, the result of inflammation, which he had observed in examining the spine in several fatal cases of tetanus. These appearances were not confined to the membranes, but sometimes implicated the substance of the spinal cord itself, in which increased vascularity, papulous spots, and other morbid appearances, were visible.

Mr. Pilcher alluded to a case occurring some years since in the practice of Mr. B. Cooper, in which there were no appearances whatever of inflammation in the spinal cord or its membranes. Papulous spots were not uncommonly observed in the spinal marrow of persons who had no disease whatever of that region. He did not deny that the spinal marrow in tetanus might be inflamed, but it was not always so, and might be the consequence and not the cause of the disease. Tetanus might be the result of irritation in a nerve, as was proved by the removal of the disease by Mr. Bickersteth at the Cape, by the division of the posterior tibial nerve. Such irritation, exciting the general nervous system, might exist without inflammation. He questioned if remedies exerted any beneficial influence in this disease, although temporary relief might be obtained from narcotics.

Mr. Dendy agreed in the main with Mr. Pilcher, but he thought idiopathic tetanus might be inflammatory; not so traumatic. He had examined five or six cases of tetanus after death, in which there were no marks of inflammation of the spinal cord.

Mr. Hilton said that the spinal marrow might be irritated, and tetanus ensue. The treatment that had been found successful in many cases was no proof of the non-inflammatory nature of the disease. Even when the division of a nerve effected a cure, it was no proof that inflammation did not exist. He alluded to the alleviation of the priapism in his case by the local application of the aconite. He had never seen destruction of the spinal marrow from inflammation in a case of tetanus, but had seen this state when no tetanus had been present.

Dr. G. O. Rees alluded to a case of traumatic tetanus which Dr. Bright treated by quinine alone: the patient got well.

Dr. Willshire observed, that the success of the remedies employed in this case did not militate against the opinion that the disease was inflammatory. All the remedies employed had, at one time or another, been used in inflammation. With respect to the use of aconitine in tetanus, he believed that Professor Miller, of Edinburgh, had called it the "anti-strychnia medicine," and suggested that it might possibly relieve the spasms in tetanus.

Mr. Bishop thought that we must refer the tetanic spasms entirely to the spinal cord. At present, however, we were too ignorant of the physiology of that part of the nervous system to decide positively on its exact condition.

Mr. Alder Fisher had seen a case of traumatic tetanus cured by the application of a blister to the epigastrium.

Mr. Wray mentioned a circumstance in connection with the case under discussion, which had not been particularly alluded to by any of the speakers, but which, in his opinion, might throw some light on the pathology of the disease. It was a remarkable fact that no permanent benefit ensued from the remedies employed, either the opium or others, until, in each attack, the system had been placed under the special effects of mercury. It was curious, in this case, that the spasm affected the flexors of the left and wounded extremity, and the extensors of the right.

February 9, 1846.

### *Acetate of Lead in Diarrhœa.*

Dr. Golding Bird had lately given the acetate of lead in a case of diarrhœa, the result of fever. The patient was a child ten years of age, and had become the subject of fever from depressing causes. Two of its brothers had died from the fever. The patient was admitted into Guy's Hospital, and eventually became the subject of diarrhœa, which had its origin, it was evident, in ulceration of some of the small glands of the ileum. The child was in a very depressed state, and had petechia on the skin and aphtha on the mouth. Opiate injections, astringents, hot fomentations to the belly, and all the usual means of treatment, failed in arresting the disease. Under these circumstances he determined on giving the acetate of lead in two-grain doses, as recommended by some Dublin practitioners. That dose was accordingly ordered to be given after each motion, until the quantity taken should amount to a scruple, if such quantity were necessary. It was given in simple mucilage and syrup. After four doses had been administered, the diarrhœa was checked, and a figured motion passed. In a second attack, the disease was arrested by the second dose. He had tried it also in diarrhœa supervening on a case of purpura, with the same good results. The lead acted on the pulse, which before was quick and vibratory, by rendering it fuller and slower.

Mr. Headland believed that Dr. Graves had recommended the lead chiefly in cases of diarrhœa accompanied with tympanitis. Was there such tympanitis in Dr. Bird's case? Mr. Headland then made some remarks on the difficulty and importance of distinguishing at what period exactly it was desirable to check the diarrhœa which accompanied or succeeded to fever, as it was so often a salutary effort of nature to right herself, and terminate the disease. With respect to fever attended by an aphthous condition of the mouth, he had found much benefit from the use of the chlorate of potash.

Dr. Theophilus Thompson related a case of diarrhœa supervening on chronic peritonitis, in which there was diarrhœa attended with vomiting of a coffee-coloured fluid, and evidence of ulceration of the mucous membrane of the intestines. The acetate of lead, in grain doses, quickly arrested the diarrhœa, improved the pulse, and restored the patient to health.

Dr. G. Bird remarked that there could be no question in his case of the presence of ulceration. The abdomen was flatulent. He had used chlorate of potash with much success in cases of gangrenous stomatitis.

### *Scirrhus of the Thymus Gland.*

Dr. Thompson related the case of a woman, forty-one years of age, who had been subject to frequent attacks of bronchitis, one of which at length proved fatal; the physical signs in the last attack, in addition to those of bronchitis, being chiefly great dulness over the greater part of the chest and pericardium. After death, two or three pints of fluid were found in the pleura of the left side; the pericardium, which was half an inch thick, contained about a pint and a half of bloody serum, was adherent to a thickened pleura, and attached to a large body, which passed into the anterior mediastinum. This body proved to be the thymus gland, very much enlarged, consisting of cells containing fatty matter, and bearing the general character of a schirrous tumour.

Mr. Hilton observed that it was very rare indeed to find the thymus gland at all at the age of forty. He had seen a case in which there was a general enlargement and consolidation of the cellular tissue of the anterior mediastinum, giving rise to somewhat of the same physical signs as in the case of the President, but in this instance

it was evident that the tumour did not consist of the thymus gland.

Dr. CHOWNE observed that the thymus gland was rarely found after the adult age. He had, however, seen one instance in which the gland was perfect in a young woman.

### *Treatment of Spina Bifida.*

Mr. HILTON inquired whether members had found any plan of treatment of service in cases of spina bifida. He considered the plan which had lately been recommended, of adopting carefully adjusted pressure over the tumor, to be a dangerous practice.

Mr. ROBARTS believed that spina bifida was usually connected with hydrocephalus, and should therefore expect no benefit from the treatment alluded to.

Mr. DENDY reprobated the practice of pressure in spina bifida; meningitis might be the result of the proceeding, as pressure might be exerted on sharp points of the bony cavity. He had seen good done in these cases by carefully-conducted puncture. In three cases of hydrocephalus treated by puncture, idiocy had been the result.

February 16, 1846.

Dr. SCOTT ALISON read a paper on

### *Arthritis occurring in the course of Paralysis.*

This form of arthritis had received little attention from physicians, and no notice of it was to be found in any of several standard works consulted for the purpose. It was confined to paralyzed parts, and did not extend to the healthy joints. The author defined arthritis to be inflammation of a joint.

The symptoms were, fulness, increase of temperature, and, in some instances, pain, or tenderness. The knee, the ankle, the wrist, the hand and foot, were the parts most frequently affected. Several cases of this form of disease had occurred in the writer's experience: two were related. A lady, aged forty-nine, who had long enjoyed perfect health, and had never suffered from any form of arthritic disease, was suddenly seized with hemiplegia. A few days after, swelling, and increase of temperature of the wrist of the paralysed side were observed, and, soon after, the knee and foot of the same side swelled, and became somewhat painful. There was no œdema. There was slight rigidity of the paralysed limbs. On inspection after death, the brain was found in a softened condition, and the pelvis of the kidney of the affected side was discovered full of small calculi of lithic acid.

A man, aged fifty-four, a house-painter, who had been subject to attacks of gout, was seized with hemiplegia. Soon after this seizure, the wrist, hand, and foot swelled, and became hot. The limbs were somewhat rigid. On inspection after death, the brain was found softened, and a large clot of blood was discovered in one of the lateral ventricles.

Dr. ALISON explained the occurrence of arthritis in the course of paralysis, by showing that the healthy relation between the living tissues and the materials of the blood was disturbed. Two morbid conditions gave rise to this disturbance—viz., a state of reduced vitality of the paralysed parts, and the presence of exciting and noxious agents in the blood. The reduced vitality of paralyzed parts rendered them less able to resist the noxious action of excitants. In proof of this, various facts were referred to, and the author related two singular cases of the inflammatory red line of the gums following the use of mercury in paralysis of one side of the face, being strictly confined to the paralysed side of the mouth. The paralysed parts were, in fact, more delicate tests of poisons in the blood than parts in a state of health.

In proof of the presence of exciting agents in the blood, the gouty diathesis of the second case, and the lithic acid calculi in the pelvis of the kidney of the first case, were adduced; and it was maintained that much countenance in favour of this position was obtained from the fact that a large proportion of cases of paralysis was associated in an essential manner with blood containing the materies morbi of gout and rheumatism, with the virus of syphilis, the exanthematous and contagious febrile diseases, and with blood containing various poisons taken into the system—such as lead and mercury: and others retained in the system by imperfect depuration—such as borbon, urea, and uric acid.

Arthritis occurring in the course of paralysis was of importance, less on its own account, than as illustrating the pathology of paralysis, and the influence of a diseased nervous system on the vital actions.

Dr. GOLDING BIRD regarded the association of paralysis with arthritis as much more common than the author supposed. He had seen many such cases at Guy's. He referred also to the occurrence of peripheral pains in various parts of the body, as an occasional forerunner of paralysis, but of that arising more especially from ramollissement. These pains were sometimes apt to mislead the practitioner. What were called rheumatic pains were often the result of disease of the cerebro-spinal axis.

D. L. STEWART believed that Heberden had mentioned the connexion between paralysis and arthritis.

Mr. DENDY regarded the arthritis as the result of the low state of action to which the

parts were reduced, and in consequence of which they could not resist the excitements which would prove uninjurious in health.

Mr. Hilton throught in all these cases there must be something more than the mere paralysis to explain the production of the thritis—that, in fact, there must be a gouty or rheumatic diathesis.

Dr. Alison remarked, that he thought there was good evidence of the presence of disease of the blood in these cases. Arthritis, might, however, be independent of gouty or rheumatic diathesis. He instanced the arthritis which is occasionally consequent upon scarlet fever as proof of the assertion.

Dr. Bennett remarked, that in these cases the arthritis might or might not be of the gouty character; it would depend on the diathesis. He made some remarks on a form of arthritis occurring in women—not in connexion with hysteria—of a sub-acute character, attended by little pain, swelling, or redness, but accompanied by well-marked evidence of disorder of the digestive functions, associated generally with disorder of the menstrual function. In these cases, colchicum was useless, but attention to the secretions, which might be righted by small doses of blue pill, ipecacuanha, and conium, followed by muriate of ammonia, was the best and most successful plan of treatment.

Mr. Pilcher considered the paper and discussion all pointed to the fact, that debility, from whatever cause, was an excitant of inflammation. It mattered little what was the original cause of the debility. It was not necessary to connect the inflammation with either a gouty or rheumatic diathesis, nor was it necessary that there should be a change in the constitution of the blood, for deficiency of nervous action was sufficient.

## CLINICAL REMARKS

ON

*Cases treated in the Westminster Hospital.*

By Benjamin Phillips, F.R.S.

Assistant Surgeon.

### *Tumor of the Cranium.*

Elizabeth Dart, æt. 53, admitted on October 9th, with a tumor about the junction of the frontal and parietal bones. It was about the size of a French walnut, perfectly smooth, and the integument moved readily over it. It was doubtful whether the tumor was itself moveable in any direction.

The history of the case was, that the tumor had existed about six months; that it had gradually arrived at its present size, and that there had not been at any time any pain experienced in it. Twelve months previously, a small swelling was observed near the same point, and disappeared without any treatment. An exploratory puncture was made with a grooved needle; nothing escaped but a little blood. A longitudinal incision was made over the tumor, and a dense cyst discovered. It was now pretty evident that the tumor was not steatomatous, and, to give room, another incision was made perpendicular to the former; the flaps were reflected back, and the tumor exposed. This was not done without wounding several small arteries.

The cyst was now punctured at several parts with the point of a knife, and the contents were discovered to be in appearance something like the pulp of a red gooseberry, but much firmer, not very unlike medullary sarcoma.

It now appeared that the tumor was under the periosteum, and that there was a slightly raised ledge of bone around it; but the tumor stretched so far among important parts that it was not thought prudent to follow it. Two long needles were passed crosswise, as nearly as may be through its base, and a strong ligature passed around. It was tied as firmly as possible, but the ligature occasioned very severe pain. The patient was put to bed, and on the following day some threatenings of erysipelas were apparent, but they did not proceed. At the end of a week it was evident that a considerable part of the tumor was in a sloughy state. On the thirteenth day it came away, leaving a suspicious-looking surface and an awkward-looking secretion upon it, with the smell of malignant disease. A part of the tumor remained, and upon this, from time to time, the chloride of zinc was applied. By this means more of it was destroyed, but ultimately a new attack of erysipelas obliged us to desist; and as it was severe, and her health had suffered from it, the surface was allowed to heal over the remaining part of the tumor.

Remarks.—The external character of this tumor, as well as its history, had a strong resemblance to those steatomatous growths which are so frequently seen about the scalp; and it was not until it was freely exposed and the cyst opened, that its nature could be discovered.

It is not easy even now to say what was its exact nature, but the probability is, that it was a form of malignant structure. It was developed under the periosteum, and the bone itself had undergone change; there was no conversion of it into the ordinary form of osteosarcoma, but the surface was raised into nodules, and a sort of bony ridge extended around the base. It did not appear to have any connection with the interior of the cranium.

### *Bent Clavicle.*

Angelina Wilson, aged 9, was admitted with a projection on the left clavicle. She states, that with a child in her arms, she fell

through a hole in a banister, and pitched on her left shoulder. The skin is grazed over the spine of the scapula.

"The clavicle, in its external two thirds, describes an angle of about 75 degrees; there is no reason to think that the bone is fractured, and she can lift her hand to her head with perfect ease. The shoulder is decidedly depressed on the injured side; it hangs down as in cases of fracture, and the shoulder is brought nearer to the sternum than its fellow."

The usual apparatus was applied to keep the shoulders apart, and in the course of a month the deformity had nearly disappeared.

A similar case, in all the essential features, was in the house at the same time with the preceding one; the same means of treatment were used, and the result was equally satisfactory.

The reparatory powers of nature are very strikingly exemplified in the cases of bent bones in young people—whether those of the arm from violence, the leg from the weight of the body, or the clavicle in the foregoing cases. It is astonishing, too, how perfectly the cure is accomplished, even with the simplest means.

*Strangulated Hernia.*

William Harrop, æt. 54, a glass-blower, was admitted into the Westminster Hospital on Friday, November 7th, with symptoms of strangulated hernia. He stated that he had been ruptured for many years, but had supported the tumor by wearing a truss; that on the previous day, on drinking some cold water during the exercise of his calling, he had been seized with faintness, pain over the abdomen, and particularly over the region of the tumor; that he had then applied to a medical man for advice; that he had taken various purgative medicines, for twenty-four hours before admission, without relief; and that soon after vomiting had come on. It appeared further, that for some time the hernial tumor had never been completely reduced. Upon his admission he was seen by Mr. Phillips, who dictated the following report of his condition:—

"The patient has a tumor in the left groin, with its long diameter extending almost in a horizontal direction; it is apparently a femoral hernia. There is an anxious expression of the face, a clean tongue, a quick pulse, a tympanitic abdomen, but pressure upon it is borne without pain. He states that he is sick after every thing he takes, and that the bowels have not been opened since the previous morning, and before the pain came on. The taxis was employed for some time without effect.

To have a warm-bath, the temperature to be gradually raised until it induce faintness.—Afterwards to have ice applied upon the tumor, which is large, and to have an Enema of Turpentine and Castor Oil.

The symptoms continued much in the same state until the next morning, when he was seen by Mr. Lynn. None of the means had succeeded either in reducing the tumor or opening the bowels, and in consequence of some contradictions he became excited, and his manner was almost maniacal. He refused to allow of the examination of the tumor, and insisted on being permitted to go home. With cautions as to the risk he ran, he was allowed to leave the hospital with his wife.

The next morning he returned to the hospital, perfectly docile. The sickness was more distressing, the matter ejected more fæcal-like, the abdomen more tender, but bearing pressure as before; the surface of the tumor redder; the bowels unrelieved.

It was now determined to proceed to operation, and the patient offered no objection. Mr. Phillips' first incision was nearly horizontal, but as more room was required, it was converted, by a perpendicular cut, into a T. The first incision having cut through the integuments, only a little cellular tissue was found intervening between them and the sac, which was quickly opened, and some light-coloured serum escaped. The sac being freely opened, the contents were found to be omentum, and under it a large knuckle of intestine. The omentum was vascular and flesh-like, and firmly adherent to the sac at many points; the intestine was rough, humid, "erectile," as Mr. White called it, and adherent by many points of recent formation; but it appeared quite in a condition to right itself when returned. The stricture, which was not a close one, was enlarged, the adhesions readily yielded to slight traction, and the intestine was returned; the omentum, from the firmness of its adhesion, was left in the sac.

He was put to bed, and in the course of the day he had several injections, but the bowels could not be moved; the tympanitis and tenderness did not increase, but the sickness persisted. On the succeeding morning his condition was not essentially changed, but the countenance was worse, and the general power had declined. He wished for ale and ginger, which was given him, with a few drops of Liq. Opii Sed., to be repeated in two hours if the stomach remained quiet;—for two hours the stomach was not disturbed; his voice was almost stentorian, and there was no appearance of immediate failing. He took the second half-pint of ale, vomited immediately, and died.

*Post-mortem examination made twenty hours after the death.*—The tympanitis was in no wise increased. The abdominal cavity

was laid open, and it appeared that there was diffused punctuated peritonitis, with scarcely any morbid secretion; the little there was, serous. The knuckle of intestine which had been in the sac had not righted itself, and, had he lived, it was clear that it would have been at the expense of an artificial anus: adhesions were already formed, so as to have allowed the knuckle to be separated with safety.

Remarks.—This case, like many cases of hernia, presented features which it is difficult to explain. The circumstances justified the belief that no strangulation had set in before Thursday. The ring was a large one, and when the intestine was compressed, the point of the finger could be passed alongside of it into the abdominal cavity before the stricture was divided; and yet the strangulation was sufficiently complete to do the gut irreparable injury between Thursday and Sunday. He does not, however, seem to have died from the immediate effects of the stoppage of the fæcal evacuations, nor from the severity of the peritonitis; for it was not sufficiently energetic to determine a morbid secretion, or occasion much pain on pressure; but from the failure of the vital powers, which were too much depressed to repair the injury done to the intestine, or to give to the peritonitis those characters which commonly belong to it. Indeed it is a question whether the pain, upon which so much reliance is placed, is not oftener absent in cases of peritonitis than is commonly imagined.

## Selections from British and Foreign Journals.

### SURGERY.

#### ON AMPUTATION OF THE PENIS.

BY ROBERT BARNES, M.B.

Dr. Barnes publishes an account of the mode in which M. Ricord avails himself of the process of contraction after amputation of the penis, to keep the urethra open.

The principle of most surgeons in this operation is to counteract contraction.

M. Ricord's principle is to avail himself of this process of contraction, and turn it to account in preserving the orifice of the urethra patent. The proceeding is this:—having performed the amputation, with the precaution of preserving sufficient skin and no more, to sheath the corpora cavernosa, and secured the vessels, the surgeon seizes with the forceps the mucous membrane of the urethra, and with a pair of scissors makes four slight incisions, so as to form four equal flaps; then using a fine needle, carrying a silk ligature, he unites each flap to the skin by a suture. The wound unites by the first intention, adhesions being formed between the skin and mucous membrane, which become continuous—a condition analogous to what is observed at the other natural outlets of the body. The cicatrix then contracting, instead of acting prejudicially, as in the old methods, tends, on the contrary, constantly to open the urethra, whilst a perfect covering is provided for the ends of the corpora cavernosa. In the spring of 1843, Dr. Barnes had the satisfaction of seeing this ingenious operation performed by M. Ricord, at the Hôpital du Midi. When Dr. B. saw the patient eight days afterwards, the sutures had been removed, union had taken place between the skin and mucous membrane, and the urine had freely passed without the intervention of a catheter. The narrator saw this patient again, when he was about to leave the hospital, at which time the cicatrix was complete, the orifice of the urethra patent; there was an excellent stump, and, in short, the operation appeared to be perfectly successful. M. Ricord has performed the operation in other cases, and, he reports, with the same happy results. Dr. B. has performed the operation many times on the subject, and has found no difficulty in the execution of it.

Another inconvenience mentioned by Mr. Hancock, the difficulty of directing the stream of urine, is one which becomes troublesome in proportion to the shortness of the stump. It may be obviated by the contrivance recommended by Ambrose Paré. The patient must provide himself with a funnel-shaped canula, made of box, ivory, or metal, the base of which, being applied over the stump, and resting on the pubis, the other end will serve to carry the urine clear off the person.—*Lancet.*

## Correspondence.

#### ON FLOODINGS BEFORE AND AFTER DELIVERY.

Sir,—Your correspondent, Dr. Waddy, of Birmingham, having called upon me, in a prominent manner, to answer certain questions relative to the subject of uterine hæmorrhage, I think myself bound in professional etiquette to do so, and must therefore again reluctantly trespass upon your indulgence by requesting a brief space in your journal for this purpose. It is true I might at once meet Dr. W.'s interrogatories by telling him that as I only undertook to write upon "floodings *after delivery*," I am not called upon to answer questions relative to floodings during and prior to delivery; but as I have no reason to suppose that Dr. W. has any other object in proposing these interrogatories than to elicit the

truth, I shall now proceed to answer them all to the best of my knowledge, hoping that he will afterwards take up the subject, and supply my deficiencies.

1. What is the cause of the hæmorrhage prior to delivery? To this question I can only reply in general terms, by stating it as my opinion, that all, or at least most of the causes of uterine hæmorrhage in the unimpregnated state, operate also during pregnancy, and that the profession has erred of late in referring floodings during pregnancy solely to the separation of a portion of the placenta. This no doubt is an additional cause, as will be more fully explained in my answer to his third interrogatory.

2. To explain hæmorrhage from a retention of a portion of the placenta, and the favourable results usually supervening on its extraction? In the first place, as every practised accoucheur knows, the retention of a portion of the placenta does not necessarily give rise to any hæmorrhage at all immediately after delivery. But if any other cause produce hæmorrhage, such as a laceration of the soft parts, a portion of the placenta acts in the same way that a coagulum does in a recent wound, by irritating the mouths of the divided vessels, and stimulating them to pour out their contents. In such a case the removal of the placenta, or of a coagulum, allows the vessels to get into a quiet state.

3. What are the causes of the hæmorrhage in placenta prævia? A very puzzling question I readily admit, and one, in my opinion, not yet satisfactorily determined, after all the *inkshed* which has been expended on it during the late memorable controversy. Certainly it does *not* proceed from the rupture of vessels passing from the mother into the placenta, as supposed by the elder Dr. Rigby, and as held, indeed, by all the late authorities up to a very recent date; for I am fully satisfied, from repeated observations, that no such vessels exist as those assumed in this hypothesis. And certainly, also, *not* by *uncorking* the vascular system of the mother (to borrow a very felicitous term used by Dr. Harding in a late number of the Lancet), for all the phenomena attending the escape of the blood are at variance with this mechanical explanation of the hæmorrhage. *Probably* it arises in part from the fœtal vessels in the separated portion being ruptured, as it is well known that they frequently are, at the separation of the placenta. In this way the placenta and fœtus are emptied of blood, and more is no doubt immediately absorbed by "the nucleated cells from the mother." That a formidable hæmorrhage should thus take place is not more difficult to account for than that there should often be a formidable bleeding from the *distal* end of a divided artery, or the *proximal* end of a divided vein. But, further, the surface of the uterus from which a portion of the placenta has been torn, being irritated by the fragments of the placental tufts left upon it, and by the coagula poured forth from the fœtal vessels, its vessels become *engorged*, and acquire the hæmorrhagic disposition. This appears to me to be the most probable explanation of the hæmorrhage in *placenta prævia*, but I repeat that I consider it a subject still requiring further elucidation.

And now, in concluding my answers to Dr. Waddy's questions, I would beg to address him in the language of Horace:—"Si quid novisti rectius illis *candidus imperti*: si non, his utere mecum."

I cannot omit the present opportunity of also briefly noticing the critical remarks on my paper by your other correspondent, Dr. J. H. Davis. I entirely acquiesce in the correctness of his general observations on floodings occurring some days after delivery from sloughing, and am glad to find that they agree with my own published views. I think it highly probable, as stated by him, that the slough does not usually separate until after the fifth day, but I am by no means satisfied that hæmorrhage may not occur some time before the complete separation of the slough. I know, indeed, from personal observation, that this happens in sloughing after surgical operations, and analogy would lead us to suppose that the same might happen in cases of delivery. In fact, when the slough is fairly separated, the blood-vessels of the part are relieved from the source of the irritation which keeps up the hæmorrhage; for, in all such cases, I am fully persuaded that the hæmorrhage is not of a passive but an active nature. Since, in the case related by me as having occurred in my own practice, delivery did not take place until the end of the fifth day, I was inclined from this circumstance, joined to the symptoms already detailed, to suppose that it might be connected with sloughing; but I admit there may also have been some slight laceration, although not remarked by me. As Dr. Davis's case, which I connect with it, in my late paper, appeared to have many features in common with mine, I was inclined to offer it as a probable conjecture that in his case too the flooding was occasioned by sloughing. On this point, however, I do not venture to pronounce an opinion confidently; indeed, as he mentions that there was "intense heat" in the vagina, the vessels there must have been in a preternatural state of activity, and any of those slight lacerations which so frequently occur in delivery, more especially in instrumental delivery, would naturally occasion a serious discharge of blood. How Dr. Davis ascertained that there was neither laceration nor

sloughing in the case, and that the hæmorrhage was connected with relaxation of the uterus, he does not acquaint us. Of course, blood collecting within the uterus would make it appear "flabby and large," and the distension produced by it would bring on expulsive pains; I cannot, therefore, but think, that it is a much more legitimate inference to conclude that the relaxation was the consequence than that it was the cause of the flooding, in the case which he relates.

On the supposed connection between hæmorrhage and relaxation of the uterus, I would beg to refer the readers of the GAZETTE to a paper by Dr. Simpson, of Edinburgh, contained in the January number of the Northern Journal of Medicine. I shall here use the liberty of quoting a portion of his conclusions, which, it will at once be seen, are strongly confirmatory of the views previously published by me. He says:—"It is to be recollected that there seems to be often no direct relation between the degree of uterine contraction and the degree of tendency to hæmorrhage, for, as we have just seen—1. No hæmorrhage may occasionally be observed after delivery, though the uterus is not contracted to its usual degree; and 2, It may be present when the uterus is apparently well contracted. But, 3, there are, according to most anatomists, few or no *contracting* fibres in the structure of the os and cervix uteri, and certainly after delivery, I have generally, if not always, found it remaining open, gaping, soft, and flaccid, even when the proper cavity above felt short and contracted, and its parietes hard and firm. Still, when the placenta is attached to the surface of this *uncontracting* portion of the uterus, as in *placenta prævia*, hæmorrhage is not common after its separation, unless some laceration of its vessels has occurred. Here we have *post-partum* hæmorrhage prevented, *without* the contractile mechanism generally considered necessary for its avoidance, being almost in existence. And 4, in cases of spontaneous or artificial extraction of the placenta *before* the child in some placental presentations and twin labours, the placental mass may be completely separated, and the uterus still remain *distended* by the presence of a child in its cavity so as to prevent much contraction of its fibres, without hæmorrhage occurring."

I need scarcely add, that these conclusions are utterly subversive of the prevailing hypothesis, which refers the hæmorrhage to relaxation of the womb, but accord entirely with the theory of uterine hæmorrhage which I am desirous of establishing. As Dr. Simpson makes no allusion to my paper, published in the MEDICAL GAZETTE of the 29th August, I take it for granted that he has not seen it, and therefore the coincidence between his views and mine are the more remarkable.

I have the honour to be, sir,
Your obedient servant,
F. ADAMS.

Banchory, Feb. 23, 1846.

## Medical Intelligence.

AT a meeting of the Council of the Royal College of Surgeons, on the 26th February, a vote of censure on the Hunterian Oration of Mr. Lawrence was proposed, seconded, and carried, by a majority of seven to four.

### ROYAL FREE HOSPITAL.

DR. WEATHERHEAD has withdrawn from the Royal Free Hospital, having resigned his appointment of Physician to that Institution.

### OPHTHALMIC HOSPITAL.

MR. JOHN SCOTT has resigned the office of Surgeon to the Royal London Ophthalmic Hospital.

### MEDICAL SOCIETY OF LONDON.

THIS Society will hold its 73d Anniversary Meeting at the Crown and Anchor Tavern, on Monday, the 9th March. The oration will be delivered by John Bishop, Esq. F.R.S.

### UNIVERSITY OF LONDON.

THE Examinership in Surgery in this University is now vacant. The salary attached to it is £175 per annum. The annual election and re-election of examiners will take place on the 1st of April next.

### GUY'S HOSPITAL DINNER.

THE Annual Dinner of the gentlemen educated at Guy's Hospital, and their friends, took place on Tuesday last, the 3d inst. at the London Tavern. About one hundred and sixty gentlemen sat down: Edward Cock, Esq. in the Chair. Among the guests were the Presidents of the Royal Colleges of Physicians and Surgeons, and the Master of the Society of Apothecaries; and among the toasts were the different Colleges, associated with the names of these gentlemen. There was some disapprobation expressed by a great many of those present on the toast of the College of Surgeons being given by Dr. Babington. Mr. Cooper, the President, returned thanks in a speech of much good feeling. He assured the gentlemen present that he had always been on the liberal side in the Council, and that the members of Council inclined to liberality were increasing in number. He trusted that the differences between the various branches of the profession would soon be settled. This speech elicited much applause.

Mr. Cock acquitted himself admirably. The arrangements, which were under the guidance of Dr. Lever, reflected great credit on that gentleman.

### MEDICO-CHIRURGICAL SOCIETY.

The Royal Medical and Chirurgical Society held its Anniversary Meeting on Monday, the 2d: Dr. Chambers in the Chair. The finances of the Society were in a prosperous condition, the receipts during the year being £1,195, and the expenditure £1,175, including the purchase of £200 stock in the three per cents. Thirty-two Fellows had been elected during the year, and the Library had been increased by two hundred and sixty volumes, eighty-five of which were donations. The President delivered the address, which was listened to with profound attention by a very large collection of Fellows. He gave short biographical accounts of the various Fellows who had died during the year, including among others Sir W. Tierney, Dr. R. Williams, Dr. James Johnson, and Dr. Theodore Gordon. At the termination of the address he was respectfully requested to publish it. The ballot was declared as follows :—

*President.*—W. F. Chambers, K.C.H. M.D. F.R.S.

*Vice-Presidents.* — B. G. Babington, M.D. F.R.S. ; Thomas Watson, M.D. ; Robert Liston, Esq. F.R.S. ; J. G. Perry, Esq.

*Treasurers.*—George Burrows, M.D. ; Martin Ware, Esq.

*Secretaries.*—George Cursham, M.D. ; T. B. Curling, Esq.

*Librarians.*—R. B. Todd, M.D. F.R.S. ; Richard Quain, Esq. F.R.S.

*Members of Council.*—William Baly, M.D. ; George Budd, M.D. F.R.S. ; P. N. Kingston, M.D. ; J. Forbes Royle, M.D. F.R.S. ; James Arthur Wilson, M.D. ; James M. Arnott, Esq. F.R.S. ; Robert Dunn, Esq. ; Charles Hawkins, Esq ; Samuel Solly, Esq. F.R.S.; Edward Stanley, Esq. F.R.S.

### MUTATIONS OF MODERN CHEMISTRY.

The Proteine doctrine which received considerable support from Baron Liebig on the first publication of his Animal Chemistry, (pp. 121, 126), is now likely to give way before the attack which he has recently made on it. Within the last two years, an oxide, binoxide, and tritoxide of this unknown something, have been successively announced as marvellous discoveries ; but in the last number of the Lancet,* Liebig has proved that the substance called binoxide of proteine is no binoxide of proteine at all ! According to Mulder, a very eminent, but a very speculative Dutch chemist, proteine is a refined condition of carbon, hydrogen, nitrogen, and oxygen, derived from albumen, fibrin, or casein, by boiling either of these substances in potash and precipitating by acetic or muriatic acid. Phosphorus and sulphur were thus supposed to be entirely separated from these animal principles, and they were considered to be reduced to a common standard. The formula of proteine was set down as $C_{48}\ H_{36}\ N_6\ O_{14}$.= Pr ; and arterial membrane became Pr + 2 H O, or a bihydrate of proteine—while the formula for *hair* was Pr + N $H^3$ + 3 H O, or an ammoniated tritoxide of proteine, &c. &c. ! The proteine doctrine was immediately incorporated into most works on Chemistry ; and has, if we mistake not, been made a subject of examination for medical students. After maintaining what we believe to be perfectly true, that the nitrogenous constituent of the pea is not free from sulphur, as Mulder states, Baron Liebig now gives it as his opinion, "that the mode of formation of proteine requires a new and more searching investigation. *I have not succeeded as yet in producing a non-sulphuretted substance possessing the composition and properties of the so-styled proteine, according to the data and instructions given by Mulder !*" Dr. Prout was the only English chemist who opposed this hypothesis on its first introduction ; and we are inclined to believe, that most other chemists fell into the Mulderean views without performing any satisfactory experiments on the subject. We have seen sulphur clearly proved to exist in the so-called proteine prepared from the caseine of milk, and the gluten of the vegetable kingdom ; and we trust that Baron Liebig will continue his researches, and expose the numerous fallacies with which we believe this department of animal chemistry to be beset.

* Feb. 21st, page 206.

## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

Friday, *Feb.* 20.—O. W. Higgs.—T. C. Paley.—D. Mahony.—A. R. R. Preston.—R. Appleton.—G. F. Burroughs.—J. Bluck.—J. S. Mitford.—J. M. Sellors.—J. C. Day.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

Thursday, *Feb.* 26.—Charles Henry Dunhill, Pontefract, Yorkshire.—William Henry Parsey, Chelsea.—James Mackie, Heighington, Durham.

## METEOROLOGICAL SUMMARY.

Mean Height of Barometer .....29·98
„ „ Thermometer[a].....44·1
Self-registering do.[b] ..... max. 72·3 min. 33·
„ in the Thames water. — 45·8 — 38·2

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·02: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was 6·1° above that of the mean temperature of the month (38°). The extreme hebdomadal range in the self-registering theremometer, was 39·3°.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, Feb.* 21.

| BIRTHS. | | DEATHS. | | *Aver. of 5 yrs.* | |
|---|---|---|---|---|---|
| Males.... | 738 | Males.... | 501 | Males.... | 491 |
| Females . | 703 | Females . | 450 | Females . | 472 |
| | 1441 | | 951 | | 963 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 130 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 162 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .....(Pop. 374,759) | 174 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .....Pop. 393,247) | 202 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .....(Pop. 479,469) | 283 |
| Total ..... | 951 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Winters; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 951 | 1080 | 967 |
| SPECIFIED CAUSES ..... | 948 | 1073 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 149 | 183 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 88 | 115 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 178 | 169 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 296 | 363 | 294 |
| 5. Heart and Blood-vessels ..... | 27 | 30 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 88 | 69 | 72 |
| 7. Diseases of the Kidneys, &c... | 13 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c..... | 12 | 12 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 12 | 7 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 6 | 2 | 2 |
| 11. Old Age..... | 44 | 90 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 35 | 27 | 26 |

The following is a selection of th number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 7 | Convulsions .... | 29 |
| Measles ..... | 20 | | |
| Scarlatina ..... | 20 | Bronchitis ..... | 72 |
| Hooping-cough.. | 59 | Pneumonia..... | 64 |
| Typhus ..... | 22 | Phthisis .....117 | |
| | | Dis. of Lungs, &c. | 8 |
| Dropsy..... | 10 | Teething..... | 12 |
| Sudden deaths .. | 11 | Dis. Stomach, &c. | 5 |
| | | Dis. of Liver, &c. | 21 |
| Hydrocephalus .. | 15 | | |
| Apoplexy..... | 38 | Childbirth ..... | 10 |
| Paralysis..... | 26 | Dis. of Uterus, &c. | 2 |

REMARKS.—The total number of deaths was 129 below the winter, and 17 below the annual average. The most fatal disease now prevailing in the metropolis is Hooping-cough, the deaths from which are much above the averages of the season and years. In the South districts, the mortality was below both averages. In all the others, it was below.

## NOTICES TO CORRESPONDENTS.

Mr. T. W. King's second paper on Ligatures and Aneurisms has been received.

Dr. Strange's contribution is in type, and will shortly appear.

Dr. Wardell.—The alteration made in the Statistical Tables is satisfactory.

Mr. J. Toynbee.—We regret that the observations should have been omitted; but the report was inserted as it was furnished to us by our reporter. We shall have great pleasure in publishing a notice of the discovery referred to by our cerrespondent.

The space required for Proceedings of Societies has compelled us to postpone the communications of Dr. Francis and Mr. Copeman until next week.

The Reports of Cases from University College Hospital have been received: one will be inserted in our next number.

Mr. R. G. Jay.—We would by all means advise our correspondent to procure the diploma to which he refers. He would not be eligible to many public offices without it. We shall be obliged to him for his notes of the most prevalent diseases in New South Wales.

Dr. Dick.—The papers shall be inserted together, as early as possible, and a proof forwarded.

Dr. Theophilus Thompson.—The case shall be inserted, and a proof sent.

Mr. W. H. Olley's communication has been received.

Dr. Grayling's case will be inserted.

*Received.*—Mr. Francis Adams.—Dr. Wardell.—Mr. E. Copeman, No. 3.

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London: John Churchill, Princes Street, Soho.

## UNIVERSITY OF LONDON.

NOTICE IS HEREBY GIVEN, That on WEDNESDAY, 1st APRIL next, the Senate will proceed to elect Examiners in the following departments:—

| *Examinerships.* | *Salaries.* | *Present Examiners.* |
|---|---|---|
| **ARTS.** | | |
| One in *Classics* | £175 | T. B. Burcham, Esq., M.A. |
| Two in *Mathematics and Natural Philosophy* | £175 | Rev. Prof. Heaviside, M.A.<br>G. B. Jerrard, Esq., B.A. |
| Two in *Logic, Moral and Intellectual Philosophy* | £50 | Rev. H. Alford, M.A.<br>T. B. Burcham, Esq., M.A. |
| One in *Chemistry* | £50 | Prof. Graham, M.A., F.R.S. |
| One in *The French Language* | £20 | C. J. Delille, Esq. |
| One in *The German Language* | £20 | Rev. Dr. Bialloblotzky. |
| Two in *The Hebrew Text of the Old Testament, the Greek Text of the New Testament, and Scripture History* | £50 | Rev. W. Drake, M.A.<br>Rev. T. Stone, M.A. |
| **LAWS.** | | |
| One in *Laws and Jurisprudence* | £50 | John T. Graves, Esq. M.A., F.R.S. |
| **MEDICINE.** | | |
| One in *The Practice of Medicine* | £175 | Alexander Tweedie, Esq., M.D., F.R.S. |
| One in *Surgery* | £175 | Vacant. |
| One in *Anatomy and Physiology* | £175 | Prof. Sharpey, M.D., F.R.S. |
| One in *Physiology and Comparative Anatomy* | £100 | Prof. T. Rymer Jones, F.R.S. |
| One in *Midwifery and the Diseases of Women and Infants* | £100 | Edward Rigby, Esq., M.D. |
| One in *Materia Medica and Pharmacy* | £100 | Jonathan Pereira, Esq., M.D., F.R.S. |

The present Examiners are eligible, and intend to offer themselves, for re-election.
Candidates must announce their names to the Registrar on or before the 25th of March.

By order of the Senate,
R. W. ROTHMAN, Registrar.

Somerset House, March 3, 1846.

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**Friday, March 6, 1846.**

## Lectures.

### CLINICAL LECTURE
ON THE
### DISEASES OF THE UTERUS,
AND ITS APPENDAGES.

*Delivered at Guy's Hospital,*

By J. C. W. Lever, M.D.
Physician-Accoucheur, and Lecturer on Midwifery at Guy's Hospital.

### Lecture VI.

*Pelvic Abscess; third attack; bursting into the rectum; partial peritonitis; friction sound; treatment by leeches, calomel, antimony, and opium. Sequelæ, &c.*

I will direct your attention this morning, gentlemen, to a case of pelvic abscess, the particulars of which you will find recorded in the Ward-book by my late clinical assistants Messrs. Ramskill and Kent.

Case.—E. L., aged 30, a spare woman, married ten years since. Two years after her marriage she gave birth to a living child after a protracted labour. She has been a widow for six years. Previous to her pregnancy, and since weaning her child, her catamenia have been regular, with the exception of two occasions, when she felt the same symptoms as previous to and on her admission into the hospital.

Three weeks since she had occasion to come to London, and got very wet; in fact, "her clothes were soaked:" her feet were wet some hours previous to the other parts of her person. On her return home she felt unwell; menstruation commenced, although not due for a fortnight; she had severe shiverings, followed by intense heat of the surface, pain in her back and thighs, with tenderness and pain in the lower abdomen. The position in which she obtained the greatest ease was on her back, with her legs drawn up. Inflammation of the bowels, she says, was suspected. Her symptoms persisted until the 29th of October, when something appeared to burst internally, and a considerable quantity of matter came away: she now felt much easier, and more free from pain.

*Symptoms on admission.*—Her face is slightly flushed; breathing hurried; pulse 112, weak and thready; abdomen subtympanitic, free from tenderness except in its lower and left position, where external examination detects a feeling of hardness. The boundaries of this hardness cannot be readily defined on account of the pain caused by the slight pressure of the hand. Percussion elicits a clear and distinct sound in the usual situations, except over the left iliac fossa and supra-pubic region: her bowels have not been opened, but soon after her admission there was a discharge of fœtid greenish-coloured pus, to the amount of nearly three ounces; she has not experienced any difficulty in micturition, although the calls to pass her water have been frequent. The menstrual discharge, which persisted during the three weeks, ceased just before her admission into the hospital. On examining per vaginam a firm cicatrix was found at the upper and posterior part of the vagina, diminishing its calibre; the posterior lip of the os uteri was hypertrophied and indurated; the uterus was large and fixed in the pelvis: on the left side of the uterus the roof of the vagina was found to be tense, hard, and inelastic. The finger passed "per rectum" found the calibre of the bowel, diminished by the size of the womb, and by the induration in front of the intestine; the immobility of the uterus was further determined by this examination, but no opening could be detected by the examining finger in that portion of the intestine which could be reached, and when removed, it was not smeared with pus.

Ordered Ammon. Sesquicarb. gr. v.; Infus. Cuspariæ, ℥iss. ter quotidie sumend.

31st.—The pain and tenderness are lessened, and the discharge of pus continues, but in smaller quantity.

Nov. 2d.—The bowels are confined; there is no discharge of pus; the appetite has improved; the pain and induration in the left iliac space has diminished.

Haust. Sennæ c. stat. et P.

5th.—She complains of being unable to sleep at night; her strength has considerably increased, and her appetite has improved; there is no return of the discharge.

To have a pint of porter daily, and to continue her medicine.

7th.—In the afternoon of this day she was suddenly seized with pain in the lower part of the right chest and right hypochondrium, ushered in by rigors and a feeling of coldness; the pulse was small and quick; the extremities were cold; the features were pinched; the face pale and anxious; the pain was constant, but increased in paroxysms. Warmth was applied to the extremities, and seat of pain: one grain of opium was administered, and she was desired to take Julep. Ammoniæ, ℥iss. occasionally, until reaction was established, and to have a stimulating enema immediately.

8th.—The pain which in the night extended over the whole abdomen has gradually declined, except in the right hypochondrium: she cannot bear the slightest pressure by the hand placed over this region: her bowels have been copiously relieved; the pulse is quick, small, sharp, and 110; the breathing is hurried, and increases the pain in the right side.

Hirudines xx. hypochon. dext. stat. imponend. et posteà, Catap. Lini. ℞. Pil. Antim. Opiat. Mit. c. Hyd. Chlorid. gr. j. 4tis horis.

9th.—Pain relieved by the leeches; no sickness; no relief from the bowels; pulse has diminished in number, and is not so sharp.

Enema commune stat. injiciend. et P.

10th.—A small quantity of fæcal matter passed with the injection; the pain is more circumscribed; pulse 95, softer; tongue coated, but moist; gums slightly spongy, and there is a slight mercurial fœtor in the breath.

Pilulæ repet. 8vis horis. Haust. Sennæ C. st. sum.

11th.—Bowels freely relieved; less pain and tenderness.

To repeat the pill at bed-time, and to take Julep. Ammon. Acet. c. Sp. Æth. Nit. ℥ss. 6tis horis.

13th.—Has greatly improved; her countenance has lost its anxiety; her pulse is 96; the inner membrane of the mouth and gums are sore; the mercurial fœtor persists; the bowels are freely opened; there is no discharge of pus from the rectum; the pain in the abdomen has decreased: she bears external examination by the hand without complaint; at one circumscribed spot a rubbing may be felt by the hand, and distinctly heard both by the ear applied to the parietes and by the aid of the stethoscope.

Mel. Boracis, pro rê natâ utend. Pil. omit. et perstet. c. Mist. Milk diet allowed.

17th.—Has lost all pain in her abdomen; her mouth is still sore; the bowels act regularly, and the fæces are natural in appearance; there is no discharge from the rectum; she sleeps well at night; her tongue is clean, moist, and indented at the edges; the pulse is 94, small and compressible.

Ordered Sp. Ammon. C. ℥xx. ex Inf. Calumbæ ter quotidie.

23d.—Free from pain; appetite considerable.

To have fish.

29th.—Her bowels are rather confined, and there is some enlargement of the intestine from tympanitis. Ordered—

Pil. Galb. Comp. gr. x. alt. noctibus et P.

Dec. 2d.—The pills have diminished the flatulent distension, and the bowels act regularly.

To have a mutton-chop daily.

5th.—Although she made no complaint, a vaginal examination was made, when the uterus was found to be more moveable than on her admission, but still fettered by the deposit anteriorly and to the left side; pressure on the upper part of the vagina, which was still tense and inelastic, did not seem to occasion her any very great pain. The left iliac region examined externally still afforded dulness on percussion, but not to the extent as on her admission; there was no swelling of the lower extremities, although she complained of a sensation of numbness in the left, and declared she had more difficulty in keeping up the temperature of the left leg than the right.

9th.—Being anxious to return to her family she was presented.

I have condensed the report of this case, and I think our time will not be misspent in considering the various points of interest. And, first, let me direct your attention to the symptoms which presented themselves on her admission. Her face was flushed; the eyes bright, though sunken; her pulse was small and quick, and her breathing was hurried, but the respiratory sounds were natural; she preferred lying in bed with her thighs flexed, as a sensation of uneasiness was occasioned in the lower part of the left side of the abdomen, if the left lower extremity were extended. The abdomen exposed to view presented a moderate degree of fulness, and returned a resonant sound when percussed on every part, except in that spot where extension of the left leg produced a sensation of uneasiness. In this region also, careful examination discovered solidity and hardness, the boundaries of which could not be satisfactorily made out on account of the impatience expressed by the patient to the pressure of the hand. Previous to my visit, about three ounces of most fœtid greenish pus were discharged from the bowel; this was saved for my inspection, so that I am certain both as to its nature and quantity. Where pus is discharged from the pelvis, or where abscesses form in the neighbourhood of the large intestines, although they may not communicate with the bowel, still the matter discharged has a highly offensive smell; it is not exactly fæculent, but its odour is peculiar. No fæces had passed from the bowel on the day of the discharge. Her calls to micturate were frequent, but there was neither diffi-

culty nor obstruction in the passage of the urine. The capacity of the bladder was probably directly or indirectly diminished, but still there appeared to be no mechanical obstacle to the evacuation of its contents. The discharge, which by her report had borne the menstrual character, had continued from the commencement of her illness, until within a short period of her admission into the hospital.

On examining "per vaginam," a cicatrix was found at the upper and posterior part of the vagina, by which the calibre of the canal was considerably diminished: this doubtless was due to some mischief which had taken place during or after her labour ten years previously: her labour she admits was protracted, but it does not appear that instrumental assistance was rendered or required. The uterus was large, and fixed in the pelvis; it had lost its usual mobility; even firm pressure failed to raise it; the posterior lip of the os uteri was indurated and hypertrophied; the roof of the vagina on the left side was tense, hard, and inelastic; this hardness and tension extended beyond the median line posteriorly, but anteriorly it did not reach to the centre. An examination per rectum confirmed the opinion of the immobility of the uterus; the dimensions of this gut were found diminished, partly by the increased size of the uterus itself, and partly by the deposition which had taken place in front and around the left side; still, although the pus had been seen, no opening could be discovered by the finger, neither was any purulent matter found on it when withdrawn from the bowel. It may be asked, was the cicatrix in the vagina occasioned by mischief which had occurred during or after parturition? or did the pus escape through the vagina in either of the two attacks from which she had previously suffered? Although we could not obtain any account of her labour beyond its protraction, yet she gave the particulars of her previous attacks with clearness, and when repeatedly questioned, as often maintained that the pus had been evacuated "per anum;" and to this statement I confess I give credence. Let me remark on the condition of the uterus; it was immoveable and large, its immobility not depending on its size, which is sometimes the case, but on the manner in which it was glued in the pelvis by the adhesive matter around it; indeed so fixed was this viscus that firm pressure failed either to raise it or move it laterally. The posterior lip was indurated and hypertrophied; this was doubtless due to chronic inflammation, and on questioning her I found that she laboured under the symptoms for some time previous to her illness. The state of the vagina must not be overlooked; on its left side it had lost its elasticity, it felt hard, brawny, and tense, and caused her considerable pain, even when but moderate pressure was made; this morbid condition extended farther posteriorly than anteriorly, and hence the diminished size of the intestine as detected by the examining finger. This inelasticity, brawny hardness, and tension of the vagina, is almost invariably found where there is abscess of the pelvis, whether such occurs after parturition or not: I think I am correct in saying it is never absent at some period of the disease where the matter is discharged, either by the bowel or the anterior canal. I desire to impress this upon you, as it may assist you in forming your diagnosis in obscure cases.

You will remember, also, that on more than one occasion, while the forefinger of the left hand was maintained at the upper part of the vagina, I placed my right hand on the left side of the lower abdomen over the seat of hardness, and the impulse caused by the one was communicated to the other.

*Cause.*—It appears that this young woman had occasion to walk for some time in the rain, and that her feet, as also her body generally, got thoroughly wet. Being some distance from home she was unable to change her clothes, and the consequent refrigeration of the body, driving the blood from the surface, most probably caused congestion in the pelvic as well as the other viscera: this is to be supposed from the sudden appearance of the menstrual discharge a fortnight before its expected time: with this were soon associated pain, tenderness, febrile excitement, &c. That there was a predisposition in this part of the body to become affected, or a tendency to take on disease, will be allowed from the fact that she had had two previous attacks, each terminating in the evacuation of pus into the intestine; and that the amount of hardness found by me, both on external and internal examination, when she was admitted into the hospital, was such, that it must, in my opinion, have existed more than three weeks.

*Diagnosis.*—The opinion I expressed respecting the nature of her malady, both on her admission and during her residence in the hospital, was, that the disease was a pelvic abscess, bursting into the large intestine, above that part which could be reached by the finger; that the inflammation probably commenced in the ovary, or the cellular tissue around it; that the induration felt externally as well as internally; was chiefly owing to the adhesive matter which had been poured out to prevent the escape of pus into the peritoneal sac, for if such were to take place it would occasion fatal peritonitis. Cases of such a termination are recorded by Dr. Seymour, Andral, Churchill, and others; but the pus, when it forms, does not always

evacuate itself by the womb; the abscess may open itself externally, it may burst into the vagina, it may be evacuated into the rectum or bladder, or it may pass into the surrounding cellular tissue, as in a case related by Puzos, p. 365, and a second by Mr. Guthrie, in Vol. 35 of the MEDICAL GAZETTE. I confess I lean to the opinion that the disease commences in the cellular tissue which intervenes between the fascia and the peritoneum: of course, under this view, the ovary must be sooner or later implicated, and to a greater or less degree; and that irritation if not inflammation existed there, is proved, I think, by the circumstance of the menstrual discharge having come on before its proper time, and continuing for a period of three weeks; until in fact the matter which had formed was evacuated, and the severity of the symptoms diminished. An immoderate and frequent menstrual flux is a very common symptom both of irritation and disease of the ovary, when such exists in its early stage, and in young females.

This circumstance should put you on your guard when called upon to treat menorrhagia. You should be on the watch not only for organic disease of the uterus, but for disease of the ovaries also. The ebony induration which is sometimes found in the roof of the vagina in these cases has in some instances given rise to the opinion that the affection was organic or carcinomatous. The brief particulars of one marked case I will relate:—

"H. B., unmarried, and 28 years of age, has been ill three months; she is of light complexion, well developed, aud of sanguine temperament; was born in Gloucestershire; her circumstances have always been easy; she has enjoyed perfect health until the commencement of her present ailment; all her family are healthy. She commenced menstruating at the age of 17, and the discharges were both regular and natural in appearance as well as quantity. She has filled the office of cook for some years in the same family.

"Three months before her admission into the hospital she suffered for the first time with retention of the urine, attended with pain in the right side. A medical man was called in: he passed a catheter, and although he declared the bladder was empty, yet she suffered extreme pain for twenty-eight hours, and at length she succeeded in evacuating a large quantity of urine in a full stream. She remained for three weeks under the superintendence of this gentleman, suffering from pain in the right iliac fossa and back, but did not again suffer from retention until a month from her first attack, when another practitioner being called to her, succeeded in drawing off three pints of urine from the bladder. Two months previous to her admission she perceived a swelling in the right iliac fossa, which has continued gradually to increase, causing a sensation of dragging down when she assumed the erect posture, but always relieved when this was exchanged for the horizontal position. She had for some time experienced a frequent inclination to pass her fæces, and had suffered considerable pain during their evacuation, but had not noticed either their character or form. On examining the right iliac fossa a tumor could be felt, although its boundaries were not well defined: it gave pain when submitted to pressure, but every other part of the abdomen was free from both pain and tenderness; the surface of the swelling was smooth, and the abdominal integuments were readily rolled over it; it returned a dull sound when percussed, and no change took place either in its size or form after she had been submitted to active purging.

"This tumor could be felt from the vagina; its induration equalled that of hard or scirrhous tumor; its size was considerable, it encroached on the vagina, but did not affect the cervix uteri; it ran along the side of the womb up to the right iliac fossa, where it was large and distinct, having all the characteristics of scirrhous disease, and without causing much pain on pressure. Three days after her admission into the hospital a considerable quantity of pus was passed by the bowel; this was attended by an evident diminution in the size of the tumor: the evacuation of the pus persisted in a greater or less degree until the 10th of April (she having been admitted on the 3rd), when the rectum was examined, and at the distance of about three inches from the orifice through which the pus was evacuated the opening was readily detected. The examination gave her no pain, neither has she experienced any during the emptying of the bowels. She remained in the hospital for a fortnight, and left for her native county. At the time of her removal, pus was still passed, but in a small quantity; this, I have since learned, continued for two or three weeks longer, and then entirely ceased. Six months after her return to town, she called upon me, when I found her looking well and making no complaint: there was no swelling or induration to be discovered in the right iliac fossa; but, on a vaginal examination, a little hardness was found on the upper and right side of the vagina."

The interest in this case consists in the amount of its induration, which equalled that of organic disease.

*Progress.*—From a report of E. L.'s case you will find that all her symptoms became ameliorated after the evacuation of the pus, until the afternoon of the 7th, when, suddenly seized with pain in the lower part of the right chest and right hypochondrium,

she experienced several rigors, and a feeling of coldness over the whole surface; her extremities were cold, her features were pinched, and her pulse was small and quick. Opium and stimulants were given her, and at length re-action was established. Some of the symptoms were detailed to me before I saw her; and I confess I was prepared to find peritonitis, arising from the evacuation of the contents of the abscess into the peritoneal cavity; but, if this had been the case, the pain should have commenced at the seat of abscess, and have thence extended upwards. By the next morning it was evident that there was peritonitis, although partial and local; this was relieved by the treatment employed, and to which I shall presently direct your attention. Another feature in this case is the *rubbing*: it could be felt by the hand, and was audible both to the unassisted and assisted ear, and was owing to the effusion of coagulated lymph. This sound was first described, I believe, by Dr. Beatty, in a case of peritonitis supervening on ovarian dropsy. The sensation conveyed was that of rubbing together two uneven surfaces, and was rendered most evident when the patient took a full inspiration. Dr. Bright has published some observations on this subject in the 19th volume of the Royal Medico-Chirurgical Society's Transactions, and has described the feeling given to to the hand as varying between "the crepitation produced by emphysema and the sensation produced by bending new leather." This sign or sensation became more and more limited in extent, and altogether disappeared, before the patient left the hospital.

Further, let me direct your attention to the mode of examination necessary to be conducted in these cases: it is not sufficient for the abdomen to be examined by the hand: although the patient usually directs us to the seat of mischief, she seldom can allow much pressure to be employed, or a careful palpation: in some cases, by the eye, we may detect either swelling or fulness; in other cases superficial pressure will be borne; but if the pressure be increased, and the hand be pressed deeply into the pelvis, she will shrink, cry out, and the hardness may be detected. Again, in some cases percussion will return the normal sounds in the several regions of the abdomen, with the exception of the diseased part, as in the case before us, while in others the induration and abscess may be confined to the posterior part of the pelvis, and the intestine may be in front; and thus the seat of mischief will return a resonant sound, by reason of the position of the bowel.

To external examination alone, then, we must not trust. An investigation must be made "per vaginam;" and here, in the majority of cases, we shall get at the true nature of the disease: the lower part of the canal may be natural in temperature and feel, but most usually the upper portion is more or less implicated, and that side on which the disease is seated to a greater extent than the opposite; it will be found hard, brawny, and tender; and, maintaining the finger in the vagina while we place the other hand on the abdomen we may satisfy ourselves (as I did in this woman's case) that the hardness felt through the abdomen, and that detected by the canal, are one and the same. The mobility of the uterus is, for the most part, to a greater or less degree destroyed, and this depends partly upon the increased size of the womb, and partly upon the manner in which it is glued in the pelvis by the surrounding adhesive matter. In cases where pelvic abscess follows abortion or delivery, this enlarged state of the uterus is never wanting; in some instances I have seen the uterus displaced laterally by pelvic abscess. When an examination is made per rectum it is not unusual to find the anus fringed with hæmorrhoids, and in several cases the calibre of the intestine encroached upon, partly by the enlarged womb, but chiefly by the tumor itself, as in the case of No. 7.

There may be cases in which you will not be able satisfactorily to make up your mind respecting their nature, even though you have recourse to an external and internal examination; in such there may be an enlarged condition of the uterus, and this may be associated with inflammatory effusion in the pelvis: here much valuable assistance will be derived by the use of the uterine bougie; but let me intreat you to use this instrument with caution and tenderness; by its aid you may determine the situation and size of the womb, ascertain its fixity or mobility, and decide the seat of the inflammatory effusion.

*Treatment.*—The treatment of this woman had been tolerably active, previous to her admission, and when I saw her it was evident that a moderately stimulating plan ought to be adopted. With this view I ordered her ammonia in five-grain doses, with the infusion of cusparia, at the same time paying attention to the state of the bowels. This was continued for three days, and with decided benefit, when a pint of porter was allowed. She had taken this but twice, when she was seized with those symptoms which justly caused my clinical clerk, Mr. Kent, to feel alarmed. While she was in a state of collapse, when the body was universally cold and rigors frequent, with a small and rapid pulse, and the face pale and pinched, opium and stimulants were given until reaction was established, and when it

became evident that peritonitis had manifested itself it was met not heroically (for such treatment would have destroyed her) but by the application of leeches to the seat of inflammation, and the administration of calomel, antimony, and opium. The leeches relieved her pain, and diminished the peritoneal tenderness; her pulse lost much of its sharpness, and its rapidity was diminished; but, as her bowels had not been relieved, a simple emollient injection was ordered. This removed but a very small portion of fæculent matter, and as she objected strongly to take castor oil, a common aperient draught was administered. The bowels were freely relieved, the pain and tenderness diminished, and as the mercury began to influence the system the frequency of the doses was changed, at first to every eighth hour, and afterwards at bed-time the mercurial action was maintained until all rubbing had ceased, or, rather, until no rubbing could be discovered. After a few days a mild tonic was prescribed, and when she left the hospital her strength was increasing and her looks improving day by day.

*Sequelæ.*—I was desirous to ascertain what was the state of the pelvic organs previous to the patient's leaving the hospital, although she had no pain, nor complained when pressure was made externally. I found that although the uterus was more moveable than on her admission, still it was confined both posteriorly and on the left side, and the upper part of the vagina was still hard and inelastic. I wished to have her under my care for a longer time in order that I might endeavour to get rid of some of the induration; but although when she left the hospital she promised to attend as an out-patient, I have not had the opportunity of judging of her progress. The treatment that I have found useful in such cases consists in maintaining the strength of the patient by generous diet, the exhibition of the Pot. Iodid. in Dec. Sarsæ Co. or Dec. Cinch., and the repeated application of blisters. This induration frequently persists for a very long period. In one case, the notes of which I possess, where pelvic abscess occurred after an attack of puerperal fever following a protracted labour, and where the ergot in a full dose was given, and the matter (as in this case) was discharged into the rectum, there is even now considerable induration, although the patient has been confined upwards of eighteen months. In another case, which I lately saw, where the abscess burst into the vagina upwards of two years since, the uterus remains firmly fixed by the surrounding induration. To a third case I was called a fortnight since, in which the labour was protracted (although at last terminated by natural efforts) by induration of the upper part of the vagina, the patient having suffered from pelvic abscess after her previous confinement, which took place fourteen months since.

Our patient when she left the hospital complained of numbness of the left leg, and with difficulty maintained the temperature of that extremity. This is usually, I may almost say invariably, the case, so long as induration exists to any extent; either there will be this sensation of numbness, or there will be want of power to move, and more frequently swelling of the lower extremity on the side originally affected. From a recital of these symptoms alone I have often been led to discover uterine and ovarian tumors, and in some cases the sequence of pelvic inflammation, where the patient has been so satisfied of the cure of the disease that in detailing her symptoms and history she has omitted all mention of it.

*Prognosis.*—Great prudence and caution must be exercised by this patient; for if she be subjected to cold, or to atmospheric vicissitudes, she will be liable to a fresh attack; and the tendency to this persists, I believe, as long as the induration remains. She has been advised to clothe herself with flannel, to pay strict attention to keep her feet dry and maintain their temperature; to avoid chilling the surface of her body, especially if in a state of perspiration; to be extremely guarded in the management of herself during the menstrual flow; and, in fine, to avoid all such causes as we know may and do excite inflammatory action where the predisposition exists.

There is one remarkable fact for which I cannot account, and that is, the greater liability of pelvic abscess to form on the left side than on the right. I have seen between twenty and thirty cases, and nearly four-fifths of these have been found on the left side. The same thing is observed in phlegmasia dolens; in it the left leg is more frequently attacked than the right; and this has caused some writers to suggest, that it may, in some inexplicable manner, be dependent on the different distribution of the right and left spermatic veins. Again, we observe in practice, that the left ovary is more frequently diseased than the right. I possess the particulars of 77 cases of ovarian disease, and from these I find, that while in 21 the right ovary was affected, in no less than 56 the disease attacked the left. These are matters as yet unaccounted for or not satisfactorily explained.

Does the occurrence of pelvic inflammation, implicating directly or indirectly the ovary, favour the development of organic disease? This is a question I feel myself incompetent at the present time to answer; the cases I have seen have not been watched

by me for a sufficient period to enable me to give a satisfactory opinion either in the negative or affirmative. One of the cases reported by me in the 2d Volume of Guy's Hospital Reports, Second Series, is now suffering from encysted dropsy; in another case, where death occurred from phthisis, the right fallopian tube was small, and its fimbriæ were matted together; the structure of the corresponding ovary was dense and hard, and in some places tubercular matter was deposited. The soft parts lining the pelvis on the right side were dense, thickened, and indurated. M. Boivin seems to be of opinion, that a chronic inflammation of the ovarium, terminating in induration, may lead to scirrhus. It requires, however, many years of close and accurate investigation; in fact, the greater part of a professional man's life will be consumed before he can amass a sufficient number of closely-observed facts to warrant him in giving an authoritative opinion. Still, "let us not be weary in well-doing;" let us not fail in our endeavours to settle the many yet uncertain points in pathology, taking for our motto, and adopting the spirit of the assertion of Baglivi:—"Ars medica est tota in observationibus."

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EXPULSION OF A PIECE OF BONE FROM THE GULLET AT THE END OF EIGHT MONTHS. BY R. BROWN, ESQ., PRESTON.

THE following case of prolonged lodgment of a foreign body, for the period of eight months, in the upper part of the œsophagus, giving rise to severe respiratory embarrassment, but without occasioning any impediment to deglutition, is sufficiently curious to merit publicity.

Mrs. Backhouse, æt. 62, whilst eating a beef-steak pie, in January 1845, accidentally swallowed a piece of bone. She was much distressed at the time, by efforts to vomit, during which some blood was brought up. Embarrassed breathing, cough, muco-purulent and occasionally hæmoptic expectoration with loss of strength and emaciation, soon followed. Auscultation failed in discovering the cause of so much pulmonary disturbance. This deranged condition of health continued until the morning of August 28th, 1845, when, during a severe paroxysm of coughing, she brought up a large mouthful of phlegm, experienced a sensation of something giving way in the throat, speedily succeeded by the feeling of a sharp substance across the passage. During a fit of vomiting she succeeded, by means of her finger, in removing the accompanying piece of bone. [No representation or description of the fragment is given.] A week subsequent to the discharge of the bone, all traces of previous irritation were entirely removed.—*Northern Journal of Medicine.*

## Original Communications.

### ON PARACENTESIS THORACIS.

*With Cases,*

BY H. M. HUGHES, M.D.
Assistant Physician to Guy's Hospital.

[Continued from page 370].

CASE III.—*Empyema—Partial expectoration of the fluid—Paracentesis—Gradual contraction—Recovery.*

E. W., aged 16, a girl of light complexion, with dark hair, and of small size for her age, was admitted into the hospital, under my care, Sept. 18th, 1844. Though she was said to have been troubled with more or less cough from early childhood, she had not been confined with any complaint of her chest till two months before, when she suffered from an attack of pleurisy in the right side, for which she was attended and appropriately treated by a practitioner in her neighbourhood, for three weeks; after which she was supposed to be pretty well, and he discontinued his attendance. She did not, however, regain her strength; and as her breathing was still disturbed, she was afterwards taken to a surgeon, who merely ordered her some aperient medicine, and recommended her applying for admission into the hospital for her ultimate cure. Three days after this, and two days previous to her admission, she was attacked with a violent fit of coughing, which lasted half an hour, and during which she continued to expectorate thick yellow matter mixed with bronchial mucus. This combined coughing and free expectoration of thick matter persisted more or less till the time of her admission. At that time she had rather an anxious expression of countenance; her face was pale; her tongue was rather morbidly clean and red, with elongated papillæ; her evacuations were natural, her appetite good, and her rest only occasionally disturbed at night by coughing. Her respirations were rather frequent, 30 in the minute, and somewhat laboured; her pulse 120, and small. The right side of the chest was rounded and raised imperfectly during inspiration. It was dull upon

precussion below the mamma anteriorly, and the scapula posteriorly. In the same parts distant tubular breathing was alone audible over a defined space; excepting that below the scapula fistulous respiration was very distinct and constant. The voice was not so loud or distinct as on the healthy side. The other parts of the chest were tolerably resonant upon percussion, and without any increased resonance of the voice; but the respiratory murmur was generally rough, hoarse, and mixed with mucous rattles. The heart was not displaced, nor did there exist any indications of its disease. The liver could not be fell below the ribs; nor was there any protrusion of the intercostal spaces, nor any other perceptible tumor of the side. She had never suffered from hæmoptysis. Her parents were alive and in good health. Ordered—

Disulphatis Quininæ, gr. iss.; Syr. Papaver. ʒss. ex. Inf. Rosæ C. ter die sumend. Pil. Conii c. Ipecac. quaque nocte. Beef-tea and a mutton chop.

Sept. 25th.—After repeated examinations, and much consideration of her case, it was thought desirable to introduce the exploring needle. This was done by Mr. Cock, a little below the angle of the scapula. A little thick purulent fluid escaped. The small trochar was therefore introduced at the same part. A small vein at first bled rather freely, and by her gasping and crying she more than once caused a small quantity of air to enter the chest. On this account, as well as that the liquid did not flow freely in a full stream, the canula was removed when not more than three ounces had been withdrawn. A piece of lint and plaster were applied to the wound. She said she felt slightly relieved, and lay down quietly on her bed. The fluid was thick, purulent, and mixed with portions of opaque albuminous matter; and in colour and other physical properties exactly resembled her expectoration, except that it wanted the admixture of bronchial mucus. She appeared neither injured nor materially benefitted by the operation; nor was there any remarkable change of her symptoms produced by it, excepting that for about thirty-six hours afterwards a portion of the sputa which she brought up possessed a well marked salmon colour, clearly resulting from the intimate admixture of a small quantity of blood. This in all probability had escaped into the cavity from the small vein which was wounded by the lancet in the preliminary incision, and being evacuated with the expectoration, clearly indicated the correctness of the supposition of a direct communication between the cavity of the empyema and a bronchial tube. She afterwards continued to expectorate the thick yellow purulent matter for several weeks; but the chest gradually became less and less dull posteriorly as well as anteriorly, and loud and loose mucous rattles became gradually more and more audible over the right side. None of the ordinary physical signs of pneumothorax with effusion were audible, with the exception of fistalous breathing. In the month of October she was but little troubled with her cough. She rested well at night. The appetite was good, and she was allowed to get up and walk about the ward; and in addition to her meat diet and tonic medicine was ordered three ounces of wine daily.

The cough afterwards continued gradually to decrease, and the quantity of the expectoration to diminish; the dulness upon percussion and the fistulous character of the breathing became less marked; she improved in strength, in flesh, and in appearance, and upon the 12th of November, at her own desire, was allowed to return to her very grateful and gratified parents. At that time there existed no dulness on percussion anteriorly, and comparatively very little posteriorly; a little mucous rattle existed below the right clavicle, and some mucous rattle, with bronchial, not fistulous, respiration over, but more particularly below, the right scapula. The right side was contracted, but not to a very great extent. The general health was good. She was scarcely ever heard to cough, and the evidence of admission of air to the lowest part of the lung, with almost its natural breezy character, was sufficiently obvious anteriorly, though posteriorly the respiration was yet loud, harsh, and hoarse; the voice was at the same part bronchial, but not shrill or œgophonic.

I heard some weeks afterwards that she was quite well, but have not seen her since she left the hospital.

The desirableness of the operation

of "paracentesis thoracis" in this case may be perhaps considered doubtful, as previously to its performance it appeared to be sufficiently evident that a direct communication existed between the cavity of the pleura and the external air through the bronchial tubes. It was adopted, after much consideration, with the simple view of endeavouring to empty the lower part of the cavity of the pleura, and thus contributing to the expansion of the lungs or the contraction of the ribs. From the extreme agitation of the patient, three ounces only were abstracted. While, then, it may be acknowledged, that the only benefit derived from the operation was the withdrawal of this small quantity of fluid, and that it therefore contributed but in a very slight degree indeed either to the relief of the patient's symptoms, or to the shortening of the duration of her complaint, it may be also confidently asserted that it did her no hurt.

There is one particular in the history of her case which may be worthy of further remark. It has been lately assumed, by a writer in one of the public journals, that in cases of empyema, accompanied with a sudden expectoration of purulent or sero-purulent fluid, and a contemporaneous diminution of the fluid in the pleura, that the inflammatory deposition in the serous membrane has been removed by an inordinate secretion of the mucous membrane. Now, though I am far from asserting that this never takes place, or that it did not actually take place in the cases particularly referred to, yet I am bound to acknowledge that I believe the assumption of inordinate secretion in these, and in similar cases, to be generally incorrect, and to state that, in a tolerably large experience in affections of the chest, I have never seen a single instance in which an empyema has been proved to have been removed in that manner. On the other hand, I have never seen a single instance, in which the opportunities of proving the source of the expectoration have existed and have been embraced, in which a direct communication has not been discovered between the cavity of the pleura and one or more bronchial tubes. It is true such proof could not be accomplished in the case under consideration, but it cannot be denied that something, very nearly tantamount to proof did actually exist. Before the operation the sputa were yellow; during the operation a vein was opened, and bled freely; the fluid abstracted was exactly similar to that expectorated. After the operation the sputa for thirty-six hours were of a salmon colour, from the admixture and thorough incorporation of blood; and after the expiration of this time they resumed their former appearance. The evidence, independently of actual demonstration, appeared complete, that a direct communication existed between the cavity, from which the fluid was withdrawn into which the vein poured its blood, and the bronchial tubes, through which that fluid was expectorated.

Independently of such evidence, it might have been *assumed* that the fluid had been secreted by the bronchial membrane. It may, indeed, be asserted that in this case the fluid had accumulated in the lung, and not in the pleura. The only answer to this assumption is, that the history, symptoms, and progress of the case, are entirely opposed to such a supposition.

[To be continued.]

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### HEAD AFFECTION IN CASES OF STRUMOUS DISEASE OF THE JOINTS.

THERE is one material circumstance that I should mention regarding this hip-joint disease: the patient labouring under it will often appear to get almost well, and his parent and the medical attendant will be congratulating themselves on his improved condition, when they will be very much disappointed in their expectations by finding him getting the symptoms of hydrocephalus—he has convulsions, and may be carried off in twenty-four hours; this I have often seen occur—I have seen the same thing happen in white-swelling of the knee-joint, and I should suppose the same would happen in white-swelling of the ankle-joint, although I have never seen an instance of it. The first case I ever saw of this was very remarkable in one particular—the child got better of the hydrocephalus, and then the knee, which had greatly improved as the cerebral affection advanced, now got bad again; and after a while the head-affection returned, and the knee became better, and thus they alternated three times with each other.—*Professor Colles' Lectures.*

ON THE

# FORMATION OF A SYSTEM OF NATIONAL MEDICAL POLICE AND PUBLIC HYGIENE;

WITH OBSERVATIONS ON THOSE CLAUSES OF THE HEALTH OF TOWNS' BILL WHICH REFER TO THE APPOINTMENT OF DISTRICT MEDICAL OFFICERS OF HEALTH.

By W. Strange, M.D.

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Men of philanthropic and benevolent minds have long lamented the total neglect with which the Government of this country has, for generations, treated all that relates to the physical well-being and domestic comforts of the poorer classes of the community; and no measure which the improved policy of modern times has suggested, will be hailed with more pleasure than the one which the present Government has promised to bring forward in this session of Parliament, for the regulation of all those matters which concern the physical condition of our town population. And it ought not to be forgotten, that to the philanthropic and public-spirited endeavours of a few individuals, this great improvement in domestic policy is owing. To the writings and personal exertions of Mr. Chadwick, Dr. Kay Shuttleworth, and, afterwards, of Dr. Southwood Smith, in London; and of Dr. Howard, in Manchester; together with a few others, are to be attributed all the blessings of this favourable movement. Indeed, in reading over the mass of evidence furnished by the laborious inquiries of the last Sanatory Commissioners, we are struck with the complete substantiation of almost every position taken by Mr. Chadwick, in the Report made by the Poor Law Commissioners, in 1842. And from the known talents for observation and clear judgment of that gentleman, such a result was to have been anticipated.

It is satisfactory to observe that the recommendations of the Commissioners (which have been nearly literally followed in the Bill) are based upon the accumulated testimony and reiterated advice of those members of our profession who have specially devoted their attention to the physical condition of the poor; and however sweeping may be the enactments, or compulsory upon individuals may be the powers delegated by it to the authorities, they in no wise compromise the true liberty of the subject, nor establish any power which is not warranted by the existing state of things.

My own attention was particularly directed to the subject of the condition of the dwellings of the poor, and of the elements of disease by which they are surrounded, during the visits of the Commissioners to this district; and much observation, then and since, confirms me in heartily desiring to see the Government scheme carried into immediate execution.

My object in the present communication is not to analyze the voluminous contents of the projected Bill, but to remark upon the practical working of those clauses which go to establish a general system of medical police, more or less complete, for the whole kingdom. For the information of those who may not have read the Bill, I here transcribe the two clauses referring to the appointment of medical officers of health:—

*Clause* 175—"And whereas the health of the population, especially of the poorer classes, is frequently injured by the prevalence of epidemical and other disorders, and the virulence and extent of such disorders is frequently due and owing to the existence of local causes which are capable of removal, but which have hitherto frequently escaped detection, from the want of some experienced person to examine into, and report upon them, it is expedient that power should be given to appoint a duly qualified medical practitioner for that purpose. Be it therefore enacted, that it shall be lawful for the said Commissioners to appoint, subject to the approval of one of her Majesty's Principal Secretaries of State, a legally qualified medical practitioner, of skill and experience, to inspect and report periodically upon the sanitory state of any town or district: to ascertain the existence of diseases, more especially epidemics increasing the rates of mortality; and to point out the existence of any local causes which are likely to originate and maintain such diseases

and injuriously affect the health of the inhabitants of such town or district; and to take cognizance of the fact of the existence of any contagious disease; and to point out the most efficacious modes for checking or preventing the spread of such diseases; and also to point out the most efficacious means for ventilating churches, chapels, schools, registered lodging-houses, and other public edifices within the said town or district; and to perform any other duties of a like nature which may be required of him; and such person shall be called the Medical Officer of Health for the town or district for which he shall be appointed; and it shall be lawful for the said Commissioners to pay to such officer such salary as shall be approved of by one of her Majesty's Principal Secretaries of State."

*Clause* 176—"And be it enacted, that whenever it shall be lawful for any coroner to summon medical witnesses, and to direct the performance of a post-mortem examination, under the provisions of an Act passed in the session of Parliament held in the sixth and seventh years of the reigh of his late Majesty King William the Fourth, entituled, an 'Act to provide for the Attendance and Remuneration of Medical Witnesses at Coroners' Inquests,' it shall be lawful for such coroner to issue his order for the attendance of the medical officer of health for the town or district within which any such inquest shall be held, and to direct the performance by such medical officer of a post-mortem examination, with or without an analysis of the contents of the stomach or intestines, without fee or reward; and any provisions contained in the said act for imposing any penalty on any medical practitioner for any disobedience of any order of such coroner shall be taken to extend and apply to such officer of health."

Here it is evidently the intention of the legislature to provide for the establishment of a more or less complete system of medical police. Every large town, when brought under the operation of the act, is to provide itself with its public officer of health, whose duty it will be to inspect and report upon the state of health and mortality within his district; and to point out to the authorities the existence of any nuisances, or other causes of endemic disease. But it would seem that the powers vested in these officers to reclaim the execution of the law are very limited, and the cases in which those powers may be exerted are ill defined. If the report of the officer of health be made to the local commissioners *only*, it will entirely rest with them whether that report be followed by efficient means of prevention. Moreover, it does not appear by what means the officer of health, supposing him independent of private practice, is to become acquainted with the precise localities in which infectious or endemic diseases may be at any time prevalent. But the greatest blemish to the arrangement appears to be, the power given to each town or district to elect and pay their own officer of health, thereby necessarily contracting his district, reducing his salary, and impairing his efficiency. "Whatsoever administrative arrangements sustain narrow districts, and narrow practice, sustain at a great public expense, barriers against the extension of knowledge by which the public would benefit, and any arrangements by which such districts, or confined practice is newly created, will aggravate existiting evils."—Sanitary Report, pp. 355.

If a separate medical officer be appointed for each town, it follows that, from motives of economy, the administrative body would not agree to pay more than a small salary, which would not compensate a man of science for relinquishing the emoluments of practice. Again, competition amongst a numerous body of resident practitioners would tend to the cheapening of the office, and there would be set on foot a system of canvassing of persons, whose fitness to judge of the requisite qualifications for such an office must be more than questionable. Local influence and connexion would tend much to pervert the judgment of those in whom the appointment might be vested; and the chances are, that the individual elected would be totally unfitted for the office, either by previous education and study, or by special attention bestowed upon the subject.

If, on the other hand, larger districts were to be adopted, the supervision of which would occupy the whole time of such an officer, at a salary sufficiently

liberal to compensate a well educated and experienced person for giving up his hopes of practice, the duties would be more efficiently performed, and the respectability and dignity of the office secured. The appointments would, in this case, more properly be vested in the Government than in the local body; and, either by previous examination, or from their known capabilities, proper persons might be selected. The salaries ought to be fixed by the Government, and paid either wholly out of the Consolidated Fund, or, as in the recent proposal of Sir R. Peel with regard to the union surgeons, one half out of that fund, and the remainder either from the county or town-rates, or the union funds. It is certain, as has been over and over again asserted by Mr. Chadwick and others, that the appointment of an efficient staff of public officers of health would be good economy to the public service, a great relief to the local burdens of the country caused by sickness and mortality, and of incalculable benefit in ameliorating the physical and domestic condition of the poorer classes of society. But to be efficient and economical, *the districts must be well defined, the duties specified, the salaries liberal, the responsibility immediate, and the qualifications of the officers well ascertained.*

In the first place, therefore, instead of only certain towns and districts, where the mortality is comparatively, and, as regards the whole population, the highest, being privileged, *if they think fit*, to elect a medical officer of health, at an insufficient salary, and without any guarantee of his fitness to perform efficiently the duties of the office, let it be made imperative upon every large town and populous district in the kingdom to be provided with such an officer. Because, although the mortality, from removeable causes, may be in some towns only one half of what it is in others,—a circumstance which mainly depends upon the comparative numbers of the richer and poorer portions of society in these towns,—yet there are, in all populous places, thousands of cases of preventable sickness and mortality, the victims of which have an equal right to protection with the denizens of more unhealthy localities. The whole kingdom might thus be divided into districts, varying in extent according to the existence of large towns and the general density of the population. Some of the larger cities and towns, such as Manchester, Liverpool, Birmingham, Leeds, Newcastle, and a few others, would probably each require the undivided attention of a sanitary officer; and, in the case of the second-rate manufacturing towns, which in many cases are almost contiguously situated, three or four, with the intermediate districts would be a sufficient extent.

There are about 600 unions of parishes in England and Wales, or on the average about 15 to each county. In the more agricultural and thinly peopled counties, one officer would be able to take charge of three, four, or five unions, with all the towns and villages comprised within them; so that it may be supposed, that, setting aside about 20 of the largest towns, each requiring probably an officer to itself, 160, or about four to each county, would be an ample staff.

Secondly, as to the *duties* of such officers. As defined by the bill, it appears that the duties of the medical officer of health are understood to be—1st, To inspect periodically the town or district under his charge, to point out any removeable causes of disease increasing the rate of mortality, and to reclaim through the commissioners, the execution of the law in cases of certain nuisances, or conditions of dwellings immediately dangerous to life or health. 2dly, To point out the best means of ventilating all public and quasi-public buildings, such as churches, schools, meeting-rooms, workshops, &c.; and 3dly, To perform all the post-mortem examinations on the order of the coroner.

Now, in order to render the inspection of the medical officer efficient, it will be necessary that his attention be continually directed to those localities where epidemic or endemic diseases may be found to exist. This can only be done by a systematic intercourse between the persons having the charge of the mortuary registers, or the union medical officers having the charge of the poor, and the officer of health. And the most efficient plan would appear to be, that the several registrars within his district should periodically, and not more seldom than every fort-

night, and in many cases oftener, make a return to the district officer of health of the *causes of death* in all the cases where the cause has been registered, pointing out the localities where the deaths have taken place. In this way an average table for the district, of the mortality from all the more prevalent endemic and contagious diseases, might be constructed, on comparing the periodic returns with which, he might see at a glance where the rate of mortality is higher than usual, and so be enabled to direct his efforts immediately to the locality. Indeed, it would, to my mind, be a very great improvement in the working of the Registration Act, and greatly facilitate the correct registration of the causes of death, if the office of superintendent-registrar were to be superadded to that of district officer of health, as by that means there would be a better command over the deputy-registrars, and much useful assistance might be mutually given by one to the other. If the return of the *causes* of death were published oftener than they now are, the public would be enabled to watch the progress of the means taken by the medical officer to check disease, and thus confidence both in his powers and intentions would be promoted. On the falling in, therefore, of these offices by the death or retirement, or even by compensation, of the present clerks of unions who hold them, I would humbly suggest that they might be advantageously added to those of the district medical officer.

Supposing, then, that a periodical inspection of the registries of death were to enable the officer to direct his attention to any particular locality, it would be his duty to report to the local administrative body upon any causes of disease which it might be in their power to have removed, and *most particularly to point out to the neighbours, and to the inhabitants of the surrounding parts, the proper precautions to be taken to avoid infection, and to prevent the spread of endemic diseases.* These would consist in voluntary whitewashing, scouring, and disinfecting by other simple means; frequent bathing, and washing of wearing apparel, and especially in proper ventilation, after all offensive matter shall have been removed from the back yards, privies, &c. I have had too many opportunities of witnessing both the ignorance and apathy of the working population respecting all that relates to the proper means of avoiding diseases of a chronic or contagious class. Too much of this is chargeable upon the want of interest which the better classes of society exhibit towards the domestic condition of their poorer neighbours and dependants: so true it is that the millionaire is totally ignorant of the mode of existence of his poor back-door neighbour. Medical men, indeed, do continually warn their patients of the poorer classes against the dangers of infection, but their visits are in general made too hastily, and their observations not always made at the time to be of much service.

The public officer of health might add to his duties that of distributing papers and small tracts bearing upon the precautions to be taken in infected districts to secure the safety of the inhabitants. He could, more effectively than the local practitioner, who has his friends to serve and to please, call the attention of the wealthier classes, and of the authorities, to the relief of sickness and distress amongst their poor neighbours. But if the operation of the Act, as far as regards medical police, is to be limited to certain large towns brought under its provisions by the government inspector, then, in one-half of the cases of necessity, would the inspection of the medical officer result in no practical utility. If it be legal and constitutional to enforce upon the owners and occupiers of property in certain large and unhealthy towns, the adoption of measures calculated to secure the public from the spread of disease, it cannot be inexpedient to make it legal to do so in the minor towns and rural villages where similar causes produce the same effects, although upon a smaller scale. Let it be competent, then, for the medical officer of health to make such representations as shall reclaim the execution of the law, to the Local Board of Commissioners, where such may exist, and where it does not, to the nearest justice of the peace, or court of petty sessions, who might be endowed with powers, within proper limitations, of enforcing the same necessary precautions and remedial measures.

In addition to these duties, the sanitary officer ought to keep and make out

periodic returns of the state of health and mortality within his district, such returns to be sent either to the Secretary of State or to some central board of health to be established for the purpose of supervising the operations of the district officers. No such board as this is at present in existence, but the Council of Health proposed to have been established by the Medical Bill so unfortunately abandoned by Sir James Graham, might, I imagine, have admirably answered such a purpose. It is not too late to establish some such governing council, for the double purpose, as originally intended, of controlling the corporate medical bodies in their educational institutions, and of keeping a strict surveillance over those members of the profession who may be entrusted by the government with the charge of the public health.

To the plan here attempted to be delineated for establishing a superior body of medical officers, to whom shall be entrusted, in an especial manner, the care of the public health, and the institution of processes for the prevention and removal of disease, it may be objected, that the present Union surgeons are equally capable to inspect and report on the existence of causes of disease increasing the rates of mortality. Doubtless they are; but when it is considered that these gentlemen are subject to the good opinion and countenance of the Guardians, if not for their offices at least for the peaceable enjoyment of them, and when it is recollected that these practitioners, in their private capacity, might often be brought into unpleasant collision with the owners of property who are their best employers, it cannot be expected, to use the words of Mr. Chadwick, that a whole body of men should be so patriotic as systematically to concede their own interests to the public welfare. It is further justly urged, that amongst so large a body of practitioners there must be some whose talents may not be always equal to the emergencies of practice, and who would feel the opportunity of applying to a superior officer, either to suggest points of practice, or to divide the responsibility of suggested measures, as a great advantage and security. Thus, to the duties of medical officer of health might be added those of district physician for the poor.

To secure these great advantages, it would not surely be bad policy, or bad economy, to pay to such competent persons such liberal salaries as would be a sufficient compensation to them for relinquishing the emoluments of private practice, and for the heavy expenses necessarily connected with their offices.

I say nothing in this place respecting those duties of the office which are more particularly specified by the bill, such as the inspection, as to ventilation and cleanliness, of public buildings, churches, schools, prisons, workshops, &c.; nor of the duty of performing all the post-mortem examinations for the coroners. This latter duty appears to be added, first, by economising the fees now paid to medical witnesses for making an inspection, and giving the necessary evidence upon it, which fees alone are calculated at probably £50,000 per annum, to make the office a self-supporting one; and 2dly, to remove the just cause of complaint of the present inefficiency of the coroners' courts, arising from the very frequent neglect of ascertaining by post-mortem inspection the real cause of death. Here, if properly carried out, we should have, in addition to an establishment of public hygiene, an ample staff of detective medical police.

Lastly, as to the qualifications required for the efficient fulfilment of the duties of officer of health. In the present disorganized state of the profession, which, unhappily for us, the government seems disposed to leave to its downward fate, it would be folly to expect to divine, from the mere inspection of the diplomas of a candidate, what may be the amount of his professional knowledge, or what may be his general capabilities for such an office. To insist upon an University education would at first sight appear plausible, but there are many men whose attention to the subject of sanitary improvement renders them peculiarly eligible, who are not possessed of the degree of M.D., and who would scorn any dishonourable means of obtaining it for such an object. No plan seems to offer but that of instituting a special examination on those points connected with the peculiar duties of the office, such as a competent knowledge of medical police and forensic medicine,

of the laws, so far as known, which govern the rise and progress of epidemic and endemic disease, and more especially a large acquaintance with the diseases, habits, and dwellnigs of the poorer classes. Business habits and an active mind are indispensable.

To conclude, Mr. Editor, allow me to remind your readers that the Home Secretary, in bringing in this bill at the close of the last session of parliament, very courteously intimated to the profession and the public that he would gladly receive and consider any suggestions for amending the proposed bill, and requested that attention might be given, during the recess, to its provisions, in order that the advantages which it holds out might be appreciated, and any defects or shortcomings supplied. Some portion of the press has commented upon the general measure, but hitherto the profession has been silent upon the matter. If, sir, any remarks of mine, or of yours upon them, should elicit any valuable suggestions from your readers, many of whom must be well qualified to advise, they will not prove, I am sure, either ill-timed or profitless.

Ashton-under-Lyne, Lancashire,
Feb. 9th, 1846.

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### REMARKABLE SUICIDE.

A FEMALE, æt. 50, cut her throat with a razor. While attempts were made to stanch the wound, she drew something from her pocket to which she endeavoured to attract attention by signs. When taken out of her hands, it was found to be a considerable portion of the walls of the respiratory tube. It consisted of the cricoid cartilage entire, of the left wing of the thyroid, of the right arytenoid, of a part of the upper rings of the trachea, and some fibres of the muscles of the larynx. The unfortunate female stated, by signs, that the mutilation was committed by herself, and that she had made five several attempts before she completed it. She survived thirty-four hours. It is observed that, if this female had died without being able to make a confession, the circumstances would unavoidably have induced a strong suspicion of homicide. How few would have credited the assertion, had it been made by an accused party, that she had herself completed the horrid dissection, and then removed the parts to her pocket.—*American Journal.*

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## CASES AND OBSERVATIONS ON THE TREATMENT OF APOPLECTIC AND PARALYTIC DISEASES.

By EDWARD COPEMAN, F.R.C.S.

THE following series of cases appears to me well calculated to strengthen and confirm the views which I have before ventured publicly to advocate with reference to the treatment of certain diseases of the nervous system. I am aware that depletion is not so generally adopted, nor practised to such an extent, now as formerly; but there is still, in many instances, so strong a disposition to resort to, and almost to depend upon, blood-letting for the cure of such diseases, that additional evidence in favour of the more cautious plan of treatment seems neither useless nor superfluous. The cases now brought forward are not selected from a number, for the purpose of favouring any particular theory, but are such as have occurred in my practice from time to time, taken in succession. They may therefore be fairly looked upon as representing the results of those principles of treatment which I have myself adopted, and which I am anxious to see more generally adopted by others.

CASE I.—John Cubitt, æt. 44, a full-sized farmer, with florid cheeks, frequent bilious headache, and melancholy temperament. On the evening of October 6, 1843, at 11 o'clock, P.M., he fell down insensible, after mental excitement and subsequent exposure to cold. I saw him about two hours afterwards. His feet had been put into hot water, his limbs rubbed, and attempts had been made to rouse him. I found him affected with hemiplegia of the left side; face flushed; pulse strong; breathing natural; sensibility much impaired; extremities cold. When roused, he complained of pain in the right temple.

Venesect. ad ℥xij. Ol. Ricini. Emp. Lyttæ nuchæ. Mustard poultices to the legs. Pil. Cath.

On the morning of the 7th, he was comatose; but could be roused without much difficulty, and then complained of pain in the head. Has stertorous

breathing at times; pulse 96; bowels acted once in the night; moves the left leg slightly; left arm helpless.

Hirud. x. ad temp. dextr.

During the leeching the stertor increased, and the pulse became irregular, which induced me to stop the bleeding immediately.

Pulv. Emeticus statim.

Seemed much relieved after vomiting, and spoke without being spoken to; more power of moving the affected limbs.

Capt. dos. Mist. Purgant, t. d.

8th. Bowels relieved twice since last night; tongue rather white; moves the arm much more freely than yesterday; left side of the mouth and left nostril more closed than the right; pulse good; still some pain in the head, and cramp occasionally in the calf of the left leg.

Contr. Mist. Purgans.

By a continuance of mild aperients and careful diet, with frictions to the affected limbs, this patient soon recovered, and is at this time (Feb. 1846), quite well and able to conduct his business as a farmer of nearly 200 acres of land.

Remarks.—Here was an apoplectic attack occurring under circumstances of depression and exposure to cold. It was very quickly followed, if not accompanied, by hemiplegia. I had known the patient for several years; he was of full habit, and had been occasionally much relieved in bilious attacks by the loss of a small quantity of blood. His pulse was now so strong that I thought it right to try the effect of bleeding, especially as there was considerable pain in the temple: I took no more blood than I thought he could well bear to lose under almost any circumstances, and he did not appear relieved. The following day he was comatose, with some stertor; neither the bleeding nor the leeching removed the pain in the head, and the latter evidently increased the stertor, and made the circulation unsteady. The relief he obtained from the action of the emetic was striking, and his speedy recovery and freedom from relapse during more than two years, very satisfactory. In so plethoric a subject, with a strong pulse, flushed countenance, and severe pain in the head, there would seem to be a necessity for copious abstraction of blood: what would have been the effect of such a plan of treatment, when the circulation would not remain firm under the comparatively small loss actually experienced?

Case II.——Cubitt, æt. 26, a housemaid, has been in ill health for several months; troubled with constant cough on exertion, palpitation, and general debility. On Saturday, February 15th, 1845, consulted a physician, who prescribed opiates and quinine. On Thursday, 20th, she was attacked with loss of power on the left side, preceded by pain in the right temple. I saw her about an hour after the attack, and, by urging her strongly to make voluntary efforts, got her to move both the leg and arm, and even to walk a few yards with a little help; pulse very feeble; tongue coated with a thick fur; breath offensive; bowels have been a long time costive; no appetite; considerable emaciation and muscular debility. She did not appear to have lost her senses at the onset of the attack, but was somewhat dull and soporose.

Emp. Lyttæ nuchæ. Mist. purgans. Limbs to be rubbed with a stimulating liniment.

21st. More drowsy in the night, and has complete hemiplegia this morning; muscles of the left side of the face quite paralysed, so that when she attempts to speak, her mouth is much drawn to the right; tongue very foul; answers questions slowly; pulse feeble; complains of pain in right temple; bowels freely acted upon by medicine.

Hirud. vj. temp. dextr.

℞. Sp. Am. c. ʒij.; Mist. Camph. Oss.; Tr. Card. c. ℥ss. M. Cochl. larg. ij. t. d. s.

22d. Great debility; reluctance to be disturbed; pain somewhat relieved; cadaverous odour from the body.

Contr. Mist. Ammon. Meat broth.

23d. Tongue a little cleaner; bowels acting; sensation perfect in the affected limbs, but no power of moving them.

25th. No amendment in paralytic state of limbs, but general health somewhat improved. Has not coughed once since the attack, although so much troubled with it before; bellows sound

during systole of the heart, as if from diseased aortic valves.

Cont. Mist. Am. t. d. et dos. Mist. purgant. omni mane.

℞. Hydr. c. Cretâ, gr. ij.; Pulv. Rhei. gr. v. M. Ft. pulv. o. n. s.

26th. Bowels acting; can move the toes slightly to-day.

March 2d. Tongue cleaner, and appetite returning; bowels acting well; no pain in the head; is sitting in an easy chair; has several times had a little fever about 3 or 4 o'olock P.M., but this goes off when the bowels act; is more cheerful, and can move the leg a little more; arm still quite paralysed.

Contr. Med. et Liniment.

5th. Is well enough to be removed to her brother's house, a distance of three miles; mouth slightly tender.

Omit. Pulv. Contr. Lin. et Mist. Purg. Omit. Mist. Ammon.

13th. Has been gradually improving in health and strength since last report; gets daily more power in the leg, and to-day, for the first time (three weeks from the attack), can move the fingers and hand; eats well. Takes the aperient dose every morning, and uses the liniment.

15th. Improving; can lift her hand several inches from her lap; tongue clean; no return of cough.

24th. Much improved in health; bellows sound very loud; has been able yesterday and to-day to walk from one room into another without assistance; not much power in forearm, less in upper arm; can raise the affected hand as high as her waist from her lap.

May 18th. The power of moving the leg and arm has increased, and she has been able to walk about the garden in fine weather. For the last fortnight she has not been so well in her general health; the weather has been cold and damp, and she is suffering from a bilious attack, for which I prescribed Pil. Hydr. et Rhei. and a mild tonic mixture. The left leg and foot are œdematous, and the action of the heart is unequal and impeded; spirits depressed; not worse as regards the paralysis.

20th. Has had severe bilious vomiting with laboured action of the heart; face almost purple, for want of free arterial circulation; can keep nothing on the stomach.

Applic. Empl. Sinap. epigast. et capt. pil ij. Cal. Opii 4tis horis.

21st. Sickness relieved; nose covered with dark spots of ecchymosis, from impeded circulation; œdema of left leg almost gone; pulse very small; heart acting strongly, with considerable bruit; complexion better to-day, and tongue less furred.

Cont. Pilul.

June 7th. Has recovered from her bilious attack, but has anasarca in both legs, and incipient ascites.

13th. Cough reappearing, with difficulty of breathing in the recumbent posture; legs more swollen.

26th. Has been much worse in her general health since last report, but there is no return or increase of paralysis; more dropsical; more emaciated; diarrhœa; rapid and violent action of the heart, with small feeble pulse.

July 1. Heart labouring excessively, with very small pulse; appears to be gradually sinking.

6th. Legs covered with petechiæ; no pulse at the wrist; action of the heart very rapid; œdema of the limbs; no increase of paralysis. She died next day.

Remarks.—This is an interesting case, inasmuch as it shews that, even under the unpromising circumstances of severe disease of the heart, paralytic symptoms may sometimes be much alleviated. She had been accustomed to work harder than her strength would bear; suffered from palpitation, and occasionally from syncope after exertion, particularly at the water-closet. Then she had cough and disordered digestive organs; and her cough was so prominent a symptom, that she applied for advice on account of it, and was treated with opiates and quinine a few days before the paralysis appeared. The first symptoms of paralysis were not severe, and by being roused she became better; but soon after she became lethargic, and then lost entirely the power of moving the limbs of the left side. The few leeches I ordered appeared to have the effect of relieving the pain in the temple; but she became extremely faint, and I was obliged to give ammonia and meat broth to sustain her. The debility was urgent; and it was clear, not only that further depletion was inadmis-

sible, but also that there was risk incurred even by the small bleeding which had been practised. The cough, which before the paralytic attack had been severe, and depended probably upon impeded action of the heart during exertion, afterwards entirely left her until a short time before her death; the quiet state in which she was kept allowing the blood to circulate pretty freely for a time, notwithstanding the disease of the heart.

By a tonic and alterative plan of treatment, the paralytic symptoms were so much relieved that, had it not been for the disease in the heart, recovery might possibly have been the result. The history of the latter part of the illness is characteristic of extensive organic disease in the heart; and it is curious and interesting to observe that the paralysis was partially removed during the existence of such a cardiac affection, and not again aggravated by the great disturbance and impediment to the circulation which preceded death.

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### PERITONITIS AFTER CONTUSIONS OF THE ABDOMEN.

At a meeting of the Sheffield Medical Society (Oct. 30th, 1845), Mr. H. Jackson read a paper on the frequent recurrence of peritonitis after contusions of the abdomen. He detailed the particulars of one case, which presented a type of a number he had had to treat; it was the case of a boy who, in running along the street rapidly with a wheelbarrow, had been struck in the abdomen by one of the stilts, the wheel having been suddenly stopped by some impediment. He was in a complete state of collapse, and there was reason to believe that rupture of some of the viscera had taken place. He rallied, and peritonitis set in; this yielded to treatment, and when apparently convalescent, he was without any known cause attacked with peritoneal inflammation again. This recurred a third time, but eventually he was discharged well. He had noticed this from other causes—from the passing of a cart-wheel over the abdomen (an analogous case to which was reported by Mr. Bennett, of Hailsham, in the Lancet of March 22d, 1845), from blows from the handle of a windlass, &c. The author had found it to recur more frequently under the age of puberty than beyond.—*Prov. Med. and Surg. Journal.*

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## SOME ACCOUNT OF A NEWLY-BORN INFANT, "FOUND DEAD," IN WHICH EVIDENCE OF LIVE BIRTH WAS OBTAINED AFTER THE SETTING IN OF PUTREFACTION.

By D. J. T. Francis, M.B.
Medical Officer of the Manchester Workhouse.

Early on the morning of January 9, 1846, a small bundle, carefully pinned in a blue cotton handkerchief, was found by the porter in a private uncovered passage of one of the public offices of this town. From circumstances, it was known to have lain there not longer than the preceding evening, during which time it had probably been thrown over the wall from the street. On opening the bundle, it was found to contain an infant child, carefully dressed in the clothes commonly used for the children of the poor. No further account of the finding could be procured, and none of the history preceding it.

In pursuance of the coroner's direction, I made a post-mortem examination of the child on the evening of January 11th, 1846, and the following is an account of the appearances met with, as they were severally committed to paper at the time.

The weight of the whole body was 2lbs. 2½oz. avoirdupois*; the entire length, 15¼ inches; the length from the insertion of the navel to the bottom of the foot, 6¾ inches. The sex was that of a female, although this was not ascertained without careful observation, owing to the advanced decomposition of these parts.

The smallness of the head and features, and the wrinkled state generally of the skin, wherever it was whole, conveyed the idea of immaturity.

The eyes were closed, but the lids not adherent. The lashes were developed. The nose was flattened, a condition which had probably resulted from the position in which it lay. The nails, both of the hand and foot, were perfectly formed, although very small.

Decomposition was proceeding pretty generally over the trunk and face, the genitals being in a state of ordinary

* The body was again weighed subsequently, in order to avoid any fallacy.

moist putrefaction; whilst from the neck, chest, and back, large flakes of white mildewed cuticle were peeling, shewing the moist softening cutis beneath. The skin covering the forehead and upper half of the face was of a green colour; that of the lower half was of the natural colour, and shrivelled, but at the corners of the mouth decomposition was fast progressing. The cuticle was separating from the whole abdomen, the subjacent cutis being moist and of a reddish-brown, but nowhere of a green colour. The cuticle was also desquamating from the right foot and hand.

There was comparatively little of unpleasant odour exhaled from the body.

No external traces of violence were observable any where, after as close a search as the state of decomposition would permit.

The funis was so much shrunk, that the noose of ligature which had been placed upon it, two inches and a half from the body, was sufficiently large to have admitted three such cords. This ligature, containing about nine threads, had been firmly tied in a knot in the usual manner, leaving three-quarters of an inch of cord external to it. There were no marks of separation of the funis, which was still firmly inserted in the body, nor were there any means of forming an opinion by what instrument it had been divided.

The table on which the body lay during examination, as well as the clothes in which it had been wrapped, were plentifully stained with dark meconium.

On reflecting the scalp, which was covered with short thick brown hair, was observed a large amount of bloody effusion, held in a web-work of cellular tissue, so as to give it a jelly-like appearance. It covered the posterior two-thirds of the right parietal bone, and small portions of the corresponding margins of the occipital and left parietal; and, on scraping it away, the subjacent bones were found scatheless. It was the remains of the scalp tumor. The bones of the head approached each other, but were very thin. The surface of the brain was whole, but spotted by bloody stains, especially in the neighbourhood of the torcular Herophili and other sinuses. It did not nearly fill the cranial cavity; the convolutions and sulci were indicated rather than formed, and it was too soft to permit any observation of the medullary development.

The chest was flattened, so that the ribs, a little external to the cartilages, were found bent at nearly right angles, owing probably to the position in which the body had lain after death.

On elevating the sternum and ribs, the lungs were found equably distended, fully occupying the thorax, overlapping a small portion of the thymus, and the greater part of the heart; they were of a light pink hue, mottled with a very pale fawn colour and a few greyish markings, but no purple or venous tints. These colours were noted immediately upon exposure, for the organs speedily assumed a bright scarlet hue. Both lungs crepitated abundantly, and, scattered uniformly over every part of their surface, were observed the minute normal air cells of the lung; and, in addition to these, each lung had about half a dozen bullæ of air immediately beneath the pleura, and varying in size from a mustard-seed to a pea.

The lungs collectively weighed only 294 grains Apothecaries' weight; placed in distilled water at 60° F. they floated buoyantly, scarcely more than a third of each being immersed. No offensive odour whatever exhaled from them; they smelled *fresh*. One of them was cut up into several fragments; the structure was tough, and a very little frothy serum exuded. Each fragment floated buoyantly; they were forcibly compressed by twisting them within a cloth, and by grinding them within a cloth beneath the weight of the body, but still they floated obstinately.

The second lung, cut up, behaved as the first; every fragment floated well even after destructive compression. The lungs contained but little blood, but unfortunately their vessels were not tied before their removal.

Upon the surface of the right auricle, immediately beneath the serous pericardium, were several minute air-bubbles, the smallest as large as a mustard-seed. The cavities of the heart were nearly empty. A clot of blood lay within the aortic end of the ductus arteriosus, which was still patent throughout, and manifested no appreciable contraction in any part of its length. The two pulmonary arteries were of large size, and well open.

The thymus was of a pinkish fawn colour.

Nothing was observed in the mouth, pharynx, or œsophagus.

The larynx and trachea were whole, patent throughout, had no marks of compression, and contained nothing.

No offensive odour proceeded from the section of the abdomen. The stomach was distended with flatus, and contained half a tea-spoonful of a thick pulpy fluid, of a red colour, as if stained by the post-mortem transudation of blood. A fragment of this pulp, agitated with distilled water in a test tube, and treated with a drop of a weak solution of iodine, struck an intense indigo colour immediately.

The duodenum and jejunum were translucent, and distended with flatus: the former contained a few grains of a yellowish-brown material. The greater part of the ileum, together with the cœcum, colon, and rectum, were full of meconium.

The liver was of dark colour externally, and rather soft on section, but no air-bubbles were perceived in it. The gall-bladder contained a few drops of bile.

There was nothing abnormal in the kidneys or renal capsules: the bladder was contracted and empty.

No signs of violence were discoverable, either in the parietes or in any of the viscera of the chest or abdomen.

The conclusions drawn from the foregoing appearances were—

I. That the body was immature.
II. That respiration had taken place.
III. That the child had been born alive, and had lived after birth.

That it was immature was tolerably clear from the shortness of the body, its weight,—making ever so large an allowance for evaporation,—the state of the cerebral convolutions, the general development, and the position of the umbilical cord. These facts seemed to point to an age probably between the seventh and eighth months.

That respiration had taken place was rendered pretty apparent from all that was observed in the lungs. For although these organs, as well as the heart, contained several bubbles of air, the undoubted results of putrefaction, (a condition which would, in many instances, have precluded any satisfactory evidence being drawn from their examination), still, in all other respects, they were so identical in characters with those of lungs which have fully respired, that it was thought the slight amount of decomposition might almost be set aside in estimating the other so decided appearances; for it would have been difficult to have conceived by what other means than full natural inflation the lungs could have become equably distended, and been enabled to fill the chest and overlap the heart, and so intimately to have become pervaded with air, as to resist its exclusion after almost destructive compression. Then, again, the difference was so manifest, on the slightest inspection, between the minute equal sized air cells, scattered uniformly over the whole surface of the lung, and the much larger bubbles of decomposition, of various magnitudes, and appearing at irregular intervals, beneath the pleura. At first sight the unusually small weight of the lungs (294 grains) seemed opposed to the idea of respiration, but it was not in reality so small, when compared with the weight of the whole body, and doubtless much had been lost in this respect by evaporation. Again, there was some source of fallacy in the omission to tie the blood-vessels before removal; and, at best, it was a feeble objection opposed to much more positive testimony.

The validity, however, of these conclusions was fully established by the discovery, in the stomach, of a small portion of farinaceous food, as demonstrated by the application of the iodine water. I am not aware of this test having been made available on more than one occasion previously*; but the evidence it furnishes is of so decisive a character, whilst its application is so readily effected, that I would suggest its employment in all similar cases. In the present case, evidence was furnished by the discovery of this food, not only of survivorship of birth in the child, but of the exhibition towards it of kindly and natural offices on the part of those in whose charge it rested.

This evidence was, in fact, the most satisfactory that could have been adduced under the circumstances; for whilst, agreeably with the injunctions of medico-legal writers, the reception of testimony derived from decomposing

* Taylor, Med. Jurisprud. page 474. The case there alluded to occurred to Dr. Geoghegan, of Dublin.

lungs, however clear, would have been made with hesitation, there could be but one inference from the discovery of food in the stomach.

The fact of live birth having been satisfactorily established, other questions arose: how long the child had lived? the cause of its death? and how long it had been dead? The solution of these could only be approached with probable evidence. In answer to the coroner it was stated that the child *might* have lived six hours, and this supposition was made chiefly from the fully distended state of the lungs, the food in the stomach, &c.; whilst, that it had not lived much beyond that time, appeared probable from the quantity of meconium still in the bowels, and the presence of the scalp tumor. The open uncontracted state of the ductus arteriosus did not appear at all reconcileable in the present case with the other appearances, and consequently did not assist in the forming an opinion.

In regard to the cause of death, it could only be stated, that whilst nothing was observed from which the infliction of any violence could be inferred, it was a frequent occurrence to immature children to die before, during, or shortly after birth, and that any more positive opinion was not warranted by the evidence. From the advanced state of decomposition in which the body was when found, with every allowance for the month of January having been much warmer this year than usual, it was not probable that less than two weeks had elapsed since the death, and possibly it had been dead a longer period than this; but the absence of all knowledge of the circumstances prior to the finding forbade a very precise conclusion.

The occurrence of a scalp tumor might have been of considerable value in deciding upon the merits of this case, had the appearances on inspection been less satisfactory. For example, had there been no positive facts derivable from the lungs and stomach, the presence of the scalp tumor would, at least, have prevented the decomposition being viewed as uterine, and have pointed out the presenting part of the child. But how far this sanguineous tumor is to be received in testimony of life in the child up to the time of, or at least just before birth, and whether any uniform period is observed in its disappearance after birth, are questions which might well repay investigation on the large scale. A rather limited research among authorities has not discovered any allusion to the availability of this phenomenon in medico-legal inquiries; nor indeed, would it, in the absence of some previous proof to the contrary, appear to be a sufficiently promising subject to originate inquiry.

It may be observed, in conclusion, that, had not the effusion of blood just spoken of been situated in a part naturally presenting during labour, it might have been easily mistaken for an extravasation, the result of some violence after birth, which had nevertheless failed to destroy the integrity of the skin.

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### CASE OF URINARY CALCULUS, THE NUCLEUS OF WHICH WAS FOUND TO BE A PIN—OPERATION.

THE patient was a little boy six years of age, who was admitted into the Sheffield Public Dispensary, under the care of Dr. Favell. The operation was performed by Mr. Ray, and is remarkable from the ingenious manner in which that gentleman contrived to extract the calculus. The following is the account which Mr. Ray gives in a brief notice of the case:—

On sounding the bladder, a stone was distinctly to be felt. There was nothing in the operation unfavourable; the bladder was entered, and, upon introducing my index finger, I came in contact with the point of the pin, which formed the nucleus of the calculus. I then introduced the index finger of the left hand into the rectum, and gave the fundus of the bladder a chuck or tilt, and caught the stone and pin in the bend of the finger, one end of the pin resting on the first phalanx and the other on the third. Had not this been the case, and had I been compelled to use forceps, it may be doubted whether I should have caught the stone in the right axis, so as to have effected the extraction, without injury to the bladder. I consider the accidental position a most fortunate circumstance, since the effort might have been repeatedly made without the same results. The stone, with the pin, did not exceed half a drachm in weight, and consisted of phosphate of lime, ammonio-phosphate of magnesia, and animal matter. The precise manner in which the pin had been insinuated into the bladder is unknown. I have no doubt in my own mind that it was passed up the penis. The little fellow is in the enjoyment of good health.—*Provincial Med and Surg. Journ.* Oct. 10, 1845.

## POPLITEAL ANEURISM — TREATMENT BY COMPRESSION.

By G. R. Dartnell, Esq.
Staff Surgeon, 1st Class, Fort Pitt, Chatham.

[*Communicated by the Director-General of the Army Medical Department.*]

Private Thomas Jones, 68th Light Infantry, aged 38 years, an Englishman, a weaver by trade, and of 20 years' service in the army, of fair complexion, and spare habit of body, but generally healthy, was admitted into the General Hospital, Fort Pitt, on the 26th July, 1845, with popliteal aneurism of the left leg. On the 5th of this month, whilst walking across the Barrack Square at Walmar, he suddenly, and without any assignable cause, felt something give way in the left ham; he nearly fell down, and with difficulty walked to his barrack-room. He was immediately conveyed to the regimental hospital; but a sudden route to a distant quarter having been received by the regiment, it became necessary to transfer him to the General Hospital at Chatham, a roller bandage having been applied to the limb, with a compress in the ham.

On admission here, a soft pulsating tumor, the size of a hen's egg, was found occupying the left popliteal space, subsiding under pressure, and returning gradually with a whizzing sound synchronous with the systole of the ventricle; the heart's action appeared to be normal; there was some œdema of the foot; and he complained of a sense of "beating" in the ham, and slight numbness of the leg and foot.

On the 3d August, two wooden clamps, with screw pads, were applied to the thigh, making pressure on the femoral artery, the one in the groin, the other in the lower third of the thigh (all bandages being previously removed), and the patient instructed to regulate the pressure of the pads according to his own feelings, relaxing one, and tightening the other as the pain from either became irksome.

5th.—Bowels slow.

Aperient draught.

7th.—Aneurism evidently firmer, and diminished in size; a coagulum apparently forming; no pulsation perceptible; temperature of the limb natural except at the toes, which are generally cold; complains of a tingling sensation from the pads, the pressure of which he regulates himself with great care and patience.

8th.—Going on favourably; sleeps at short intervals only, being often awakened by the pain from the pads; pulse 56; bowels confined.

Aperient draught.

9th.—Bowels opened by the medicine; tumor less; it feels quite solid, and is wholly without pulsation.

10th.—Going on most favourably. Tourniquets entirely removed, and a roller bandage applied, with a compress in the ham, and another over the femoral artery, with a view of still moderating the circulation through this vessel.

11th. — Temperature of both limbs alike and natural; pulse 56; complains of numbness in the limb.

21st.—Aneurismal tumor diminished one-half, and entirely devoid of pulsation. The patient has been out of bed for two days; is in good health; has got an increase of diet; and makes no complaint but of occasional slight cramps and sense of numbness in the leg.

Omit bandage. Use frictions of Camphorated Liniment.

Sept. 8th.—Exercises a good deal; feels slight weakness in the limb, and stiffness at the bend of the knee; no other complaint.

25th.—Absorption going on rapidly; aneurismal tumor has nearly disappeared; complains only of occasional slight and transient twitching pains in the calf of the leg.

Oct. 20th.—Has been quite well for some time, but kept in the hospital for observation, on account of the interest attached to his case. Discharged to duty at invalid barracks.

The chief point of interest in this case (and for which alone it is offered to the profession), is the rapidity of the cure. The tourniquets were first applied on the 3d of August; and on the 10th (the seventh day) were removed altogether. The pressure was not so great at any time as wholly to obstruct the current of blood through the femoral artery, nor was it sufficient to produce even the slightest abrasion of the cuticle. On the 15th day from the

commencement of the treatment he was out of bed, and in little better than two and a half months he was able to resume his duties as a soldier.

The patient has this day been seen by several officers of the establishment: he is in the enjoyment of his ordinary health; complains only of a slight degree of weakness in the limb, and occasional feeling of numbness along the fore part of the leg, but walks without the slightest limp. There is no trace whatever of the aneurismal tumor, and the measurement and muscular development of both limbs are in every respect alike.

Chatham, Feb. 5, 1846.

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### STATE OF THE URINARY ORGANS IN SCARLATINA.

BY M. SCHOENLEIN.

THERE is a peculiar phenomenon that occurs in the convalescent stage of this exanthem, which is interesting and worthy of notice in many points of view. That there is an exfoliation of the mucous membrane of the mouth and fauces, is known to every medical man; but few are aware that a similar process not unfrequently takes place along the whole course of the urinary organs. That such is the case may be discovered by examining the urine with the microscope. If this be done, we shall often find a large number of epithelial scales, which, to the unassisted eye, look, in the mass, like a mucous sediment or opalescent muddiness. Schoenlein is of opinion that this exfoliation of the mucous membrane of the uropoietic organs is the real cause that predisposes the patient to that form of dropsy which is so apt to occur after scarlatina, and in which the urine is well known frequently to contain a number of blood-globules, as well as a quantity of albumen. Such a condition of the urinary secretion may very reasonably be regarded as indicating a state of high irritation of the mucous surface along which it flows. It is, therefore, a very natural and obvious deduction that a patient should never be pronounced quite convalescent by his physician until not only the cutaneous desquamation has entirely ceased, but the urinary secretion also has resumed its healthy condition in every respect. If this rule were more uniformly followed in practice, many of the most unpleasant *sequelæ* of scarlatina might unquestionably be avoided. The patient should be strictly guarded from cold, and the state of the urine be sedulously watched for several weeks after the decline of the eruption.—*Med. Chir. Review; notice of Schoenlein's Clinical Lectures.*

# MEDICAL GAZETTE.

FRIDAY, MARCH 13, 1846.

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IN our last number we examined the Parliamentary returns, in respect to licenses granted by English Universities and Colleges in the three years ending 1844. We shall now proceed to examine the returns for Scotland and Ireland. The practice in the University of Edinburgh, is to confer the degree of Doctor of Medicine, after the candidate has passed three examinations, the first of which, is to test his knowledge of Latin: and the second and third are directed to professional subjects. The first of the two professional examinations, may be taken at the end of the third year, or it may be deferred and taken at the same time with the second professional examination,—at the expiration of the fourth year devoted to medical studies. It is not of much importance to know how many were passed or rejected for the Latin examination, nor how many withdrew from the two examinations on professional subjects. With these deductions, we find from the return that out of 96 who underwent the first examination, 87 passed,—thus making the rejections 9·3 per cent. On the second examination, the examined were to the passed as 153 to 152,—the rejections being 0·65 per cent. The total number who graduated at the University in the three years, amounted to 244. The privileges conferred by the Edinburgh degree are that the possessor is eligible to the Royal College of Physicians of Edinburgh, and by long custom he enjoys a right to practise throughout the British dominions, except where local restrictions exist to the contrary.

The Royal College of Surgeons in Edinburgh examined during this pe-

riod for the licentiateship 306 candidates, and granted 266 diplomas—the rejections being 13 per cent.: — and for the fellowship 4, of whom all were were admitted. They examined also 38 medical officers for promotion, of whom 35 passed. The diploma of licentiate of this College, confers the right of practising surgery and pharmacy in the counties of Edinburgh, Linlithgow, Haddington, Fife, Peebles, Selkirk, Roxburgh and Berwick. It is received as a qualification by the Army and Navy Medical Boards, as well as by the East India Company. These are the only statutory privileges; but by custom the licentiates have been allowed to practise in every part of Scotland; and until the passing of the Apothecaries' act in 1815,—in every part of England except London. All licentiates may become fellows on passing the required examination. The only additional privilege appertaining to the fellowship, is an exclusive right to practise within the city and liberties of Edinburgh.

The return for the University of Glasgow, has been rendered as confused as possible. Instead of recording simply what the return required, *i. e.* the *number* of candidates, we have a long list of names pedantically paraded in Latin, and the nationality of each candidate so distinctly defined, that one gentleman appears as an *Indus Occidentalis*, another as an *Angla Indus*, and a third as a *Cambro Britannus!* One cannot help feeling a secret satisfaction in observing, that, although christian names are thus Latinised—surnames appear to set the Glasgow Latinity at defiance. If we have among the graduates, a "*Polonus*" with a euphonous name which one of the *Patres conscripti* of ancient Rome might have envied—M. Loretanus Nobilis de Dydnia Dydynski, there is a great satisfaction in finding an "*Hibernus*," "Hart Gimlett," whose christian and surname have evidently offered such a resistance to the translator that he has given up the attempt in utter despair! But, to speak seriously, we think this system should be abandoned:—names should not be thus mutilated by being given partly in Latin, and partly in English; and certainly the display of this long list was not required in a simple Parliamentary return, such as that which we are now engaged in examining.

There is no account of the number examined and rejected: all we learn is—that the degree of M.D. was conferred by this University in the three years, on 143 candidates; while only six passed for the degree of C.M. Chirurgiæ Magister.

In University and King's College Aberdeen, the number of candidates examined during the three years, amounted to 25, and all had the degree conferred on them. In Marischal College and University, 29 were examined and 13 received diplomas to practise medicine. No diplomas were granted in surgery. At the University of St. Andrews 130 candidates were examined, and 117 diplomas in medicine granted. The rejections amounted to ten per cent. No diplomas are granted in surgery; the graduates in medicine have no special privileges.

The number of licenses granted by the King and Queen's College of Physicians, Ireland, amounted in three years to 14. The number examined is not stated. In the Royal College of Surgeons 139 were examined, and 131 passed; the rejections being, therefore, 5·7 per cent. The surgical diploma confers a right to practise surgery; and its possessors have the exclusive privilege of being appointed surgeons to county infirmaries in Ireland. In the Apothecaries Hall, Ireland, 181 candidates were examined, and 164 received licenses. The rejections were 9·3 per cent. The privileges are very similar

to those of English apothecaries. In the University of Dublin (Trinity College), 58 degrees in medicine were granted. The graduates have all the usual privileges of physicians.

It will be perceived, from an examination of these tables, that the number of persons licensed to practise by the universities and colleges of Scotland and Ireland, during the three years ending 1844, amounted to 1181, which, considering the ratio of population, is in about the same proportion as the number licensed during the same period in England and Wales. Of the above total, Scotland, however, furnished no less than 814; namely, 542 physicians, and 272 surgeons; while in Ireland the total was 367, of which number there were 72 physicians, 131 surgeons, and 164 apothecaries. It must be remembered, however, that a large number of the English and Irish are to be found among the Scotch graduates. The diplomas granted in medicine in Scotland, are as two to one compared with those granted in surgery, while in Ireland they are a little more than one to two, and in England they are only one to *eight!* It is, therefore, we think, obvious, that a very large number of candidates are induced to seek the Scotch diplomas of medicine, from the greater facilities offered for obtaining them there, than in other parts of the kingdom. For one M.D. diploma in England, three are granted in Scotland. North of the Tweed, however, the race of apothecaries is unknown; although the difference between them and many of those possessed of the M.D. diploma is probably only nominal. In our former article we showed that the average number of practitioners annually licensed in England and Wales, amounted to 907; and we here find that the average number annually licensed to practise in Scotland and Ireland, amounts to 394:—total for the British Islands, 1301, a number apparently far exceeding the wants of the community, and quite sufficient to account for that competition for practice among medical men, which is found to exist in every part of the empire. Of this large number of practitioners, Ireland contributes less than one-eleventh, Scotland rather more than *one-fifth*, and England the remainder.

These parliamentary returns appear to us to show that much benefit would be derived from the abolition of the greater number of the licensing estaments, and the simplification and consolidation of the rules under which those Institutions deemed really necessary for advancing the science of medicine, should be allowed to grant diplomas. A contemporary has suggested that it would be a benefit to the profession if the universities and colleges of the United Kingdom were prohibited from granting diplomas or licenses for several years; and arbitrary as such a rule may appear, we verily believe that it would be attended with less evil to the community and the profession itself, than the continuance of the practice here brought to light,—*i. e.* of sending out yearly on the population of this country, an army of 269 physicians, 660 surgeons, and 373 apothecaries, deriving their qualifications under *sixteen* different systems of study, and receiving their licenses to practise from as many different colleges, universities and societies.

## Reviews.

*Reports of the Medical Officers of the Lunatic Asylum for the County of Lancaster.* Instituted 28th July, 1816: for the years 1841 and 1845. 8vo. pp. 33 and 37.

It has rarely fallen to our lot to peruse more interesting and satisfactory reports than those of the County of Lan-

caster Lunatic Asylum; impressively explanatory as they are of the beneficial workings of the most philosophical and most humane system that has ever been adopted in the treatment of the insane. The great value of the plan of moral restraint appears to rest in its almost universal applicability. Unfortunately the best-devised systems of medical treatment are continually failing in the hands of their advocates, but this plan is daily gaining new and extended force; and, with the exception of here and there an isolated instance, its benign influence has demonstrably exerted a more or less beneficial power over nearly the whole of the wretched beings for whose good it has been employed.

To every individual interested in the welfare of his afflicted fellow men, the history contained in these pamphlets must be deemed of the most important character, for it not only traces out the means by which a crowded, unhealthy, and incommodious place of forcible restraint has been converted into a comfortable, salubrious, and cheerful home, but it also shows by what gradual and cautious steps, many scores of wretched beings, existing in the extreme depths of moral prostration, and physical misery have been raised to the condition of industrious, and, we would fain trust, comparatively intelligent and happy men. We wish our space would admit of our following out, at considerable length, the means by which this good change has been brought about within the five years, during which the new system has been in operation, but we must be content with quoting a few passages only, as illustrative of the contrast between the former and present state of the lunatics under treat ment in the asylum. The following remarks will give a fair idea of the system pursued previously to the year 1840.

"From the opening of this asylum, in the year 1816, mechanical restraint appears to have been extensively employed; and at the time your officers took charge, they found twenty-nine persons wearing either handcuffs, leg-locks, or strait-waistcoats, exclusive of between thirty and forty patients who were chained down during the day-time on seats so constructed as to answer all the purposes of water-closets, in rooms known by the appellation of 'the warm rooms;' moreover, during the night-time, all the epileptic and violent patients, were chained or otherwise secured in bed. It was also an established custom to place every case on admission, under restraint during the night-time, for a longer or shorter period, as might appear expedient. Before proceeding any further, it may be advisable, more especially as some erroneous statements have already appeared about these 'warm rooms,' to give a general idea of their construction and situation. They are two in number, one for the females and the other for the males, situated in the centre of the building, in juxta-position, and obtain their designation from the circumstance of the floors, which are of stone, being heated by flues. They are thirty-four feet long by eighteen broad, and fourteen feet high; and, although they are dark and gloomy in their appearance, they are tolerably well ventilated. Along the inner wall of these rooms, were placed fourteen stalls or boxed seats, answering the double purpose, as stated above, of seats and water-closets; and at the end of each room, three similar seats, not answering the purpose of water-closets, were affixed. Idiotic and violent patients, and those of filthy habits, were chained in these seats from early in the morning until bed-time. The men were clothed in a short petticoat; and, owing to the floor being warmed, neither the men nor women were usually allowed shoes or stockings. A long leaden trough, immediately below these seats, and communicating with a common drain or sewer, was repeatedly washed out during the day by turning on a tap of water at the upper part. The sequel will show that your officers, having altogether abolished this system of restraint, have hitherto experienced no difficulty in consequence." — (Report of 1841, p. 4).

Let us turn from this melancholy picture to that afforded by the Report of 1845; where the medical officers inform us—

"As a preliminary step in the moral treatment, all obstacles to freedom of motion, then in extensive use, were gradually removed—obnoxious mechanical contrivances, destined for restraining the person, being both offensive and calculated to produce a degrading effect, were abolished. Means were adopted to encourage the patients to engage in various handicraft and agricultural occupations, with what success the following passages will show:—

"Some idea may be formed of the extent to which occupation in husbandry, labouring work, and various trades, is carried on amongst the male patients, when it is stated that out of the present inmates (averaging about 325), 195 are occasionally so employed, in addition to those engaged in minor

occupations, and that, every day, upwards of one hundred of these may be seen actively at work.

"To regulate an extended system of occupation, where implements of the most dangerous kind are placed in the hands of so large a body of patients, must, at all times, require considerable care and circumspection, owing to the necessity of exercising a discriminating judgment as to the period of the disease at which employment is desirable, as to the kind of employment, and the length of time it is advisable the patients should be so occupied, and also how far it can be practised with safety and benefit. Attention to these points is constantly necessary, and if due consideration were not given to them, injury rather than benefit might accrue, and a liability to serious accidents would be incurred; as yet, however, no injury, even in the slightest degree, has been intentionally inflicted by one patient upon another by the tools used in out-door employment." (p. 13). "In the course of the last five years, upwards of 200 patients, who formerly slept on straw, have been provided with comfortable flock beds." (p. 19). "As respects the patients, a marked advancement is observable, in a more quiet, contented, and cheerful aspect, indicating an increase of happiness and comfort; in attention to personal cleanliness, and orderliness of dress, in diminution of noise, violence, destructiveness, and inattention to habits; in the amount of occupation; in improved conduct towards each other and the attendants, as well as increased confidence in the officers, and reliance in their advice; in a diminution of attempts to escape from the building, although the facilities of escape are increased; in improved bodily health, increase of recoveries, diminution of sickness, disappearance of diarrhœa," (which was formerly prevalent and very fatal in the house) "and striking diminution of deaths; in the entire disappearance of the degrading and humiliating spectacles formerly presented in some parts of the establishment, and in part, in the general diminution of the afflicting phenomena of insanity."

We observe, however, that, although the average yearly number of deaths, as stated in the report, has become greatly diminished during the last five years, it is still large, averaging about 70 per annum out of about 320 patients. It appears from the tables that the deaths from phthisis in this institution are very numerous. Between June 1840 and June 1841, 21 individuals died of this disease, the total number of deaths in that year being 70. Between June 1844 and June 1845, 25 patients died of pulmonary consumption, of whom 5 were males and 20 females:—the total mortality from all causes, during this year, being 68. It is not impossible that the great increase of mortality from phthisis among the female lunatics, during the last year, may be attributable wholly to accidental causes, but we think that the matter should be well investigated. It appears to us to be very possible, from the statement made in another table (p. 33), of the number of articles of clothing made by the female patients during the twelvemonth in question, that the great confinement necessarily attendant upon increased application to sedentary pursuits, has, in some measure, conduced to the augmentation of deaths from phthisis. Among the males, on the contrary (many of whom are now engaged in out-of-door employments), the deaths from this cause have diminished more than one-half. We think that the conductors of lunatic asylums, unions, penitentiaries, houses of industry, schools, and, in fact, of all institutions where a large number of individuals are congregated together, and subjected to a certain degree of physical restraint, can scarcely fail to diminish the mortality from phthisis and other chronic maladies among their inmates by a judicious adherence to the principles laid down by M. Fourcault,* with regard to the influence of air, light, and exercise, in preventing the development of those diseases.

The Report states that no case of suicide has occurred in the institution during a period of three years. The removal of the iron bars, which both caused a gloomy state of mind, and afforded facilities for the execution of such a design, has been the means of rendering the attempts at self-destruction much less frequent.

"In the summer of 1842, upwards of nineteen tons weight of iron bars and gates were completely removed."

We consider these Reports to be highly creditable to the humanity and judgment of all concerned in the affairs of the Lancaster Asylum, but especially to Dr. De Vitre and Mr. S. Gaskell, the medical officers, to whose laudable

* Causes generalés des maladies chroniques, spécialement de la Phthisie Pulmonaire et Moyens de prévenir le Développement de ces Affections. Par A. Fourcault. Paris. 1844.

exertions the beneficial changes have been mainly due. To every person engaged in the management of the insane, the facts and suggestions contained in these unpretending pamphlets will be found of inestimable value.

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*Taschen-Encyclopädie der medicinischen Wissenschaften. 1 Bändchen, Anatomie des Menschen.* Von Dr. Alfred von Behr. Erlangen. 1845.

*A Pocket Encyclopædia of the Medical Sciences. Vol 1, Anatomy.* By Dr. Alfred von Behr. Erlangen. 1845. Sm. 8vo. pp. 496.

This is a neat little Manual of Anatomy, well adapted to instruct the German student in the principles and practice of this important science. It is not, however, a dry outline of anatomical structures. The author has very judiciously prefixed to the descriptive portion of the work, a short introduction embracing numerous interesting chemical and physiological details. The special anatomy is divided into six sections, comprising the bones, ligaments, muscles, viscera, vessels and nerves. The author adopts throughout that systematic arrangement in the description of each structure, which we have so often occasion to commend in German medical works. He is careful to give to every organ its relative position; and numerous useful measurements are appended. The bones are in this way compared with each other, and the degree of development which they undergo at different ages, is uniformly stated. We have so many excellent manuals of anatomy, that a translation of such a work is scarcely required; but we think English writers might derive some useful hints in regard to arrangement, and the mode of treating the subject, by the examination of Dr. Von Behr's useful little treatise.

We shall be glad to welcome the other volumes of the series, which are to include successively each of the medical sciences, on the principle adopted by Mr. Churchill, in the publication of his useful series of manuals.

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# Proceedings of Societies.

## ROYAL MEDICAL & CHIRURGICAL SOCIETY.

February 24, 1846.

Dr. Watson, President, in the Chair.

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*On the Poisonous Effects of Animal Food when Eaten in a State of Decomposition; with Three Cases of Poisoning by Bacon, attended by Temporary Derangement of the Mental Faculties.* By Joseph Toynbee, Esq. F.R.S. Senior Surgeon to the St. George's and St. James's General Dispensary.

The author commences his paper by stating that, although numerous and valuable observations had been made on the effects of mineral and vegetable poisons, the medical profession possessed but very scanty information respecting the agency of animal poisons. Animal poisons act in three ways—1st, by the gases evolved during putrefaction being respired; 2d, by the introduction of decomposing matter into the system by means of wounds; 3d, by its introduction into the stomach and intestinal canal. The paper referred to the latter class. It appeared that the *putrefaction* of animal matter was of two kinds—the *ordinary* one in which meat is considered to be "high," the other which Dr. Christison describes as "*peculiar*," and which gives rise to the formation of a poison. The three articles of food which, under certain circumstances, undergo this peculiar change, are "a peculiar kind of sausage, a particular kind of cheese, and bacon." Between the years 1793 and 1827, or in the course of thirty-four years, two hundred and thirty-four persons residing in Wirtemberg partook of the sausage poison, of whom nearly one-half died. Several well-authenticated cases of poisoning by *bacon* have been traced in Germany and France, but previously to the present time no cases of the kind have been recorded as having occurred in Britain; but, as Dr. Christison most justly remarks, "the defective system of medical police in this country would allow cases to pass sometimes without notice, and almost always without scientific observation; but it must not therefore be supposed that they are wholly unknown." The author proceeded to show that a poison of a similar character was developed in each of the three kinds of food alluded to, and he then detailed the three cases of poisoning by bacon which had been attended by him.

Case I.—A barrister, aged thirty-five, partook of tainted bacon three times, but

was not affected by it until the third day, in the morning of which day he became anxious, but transacted his ordinary business, and also had interviews with several strangers, and took careful notes of what occurred. Towards the afternoon he became dreamy; his imagination was disordered, and he found that his memory had almost deserted him; indeed, to so great an extent that he could not recal to his mind the act of getting up, or, with one or two exceptions, the particulars of a walk he had taken with a friend before breakfast. The persons whom he had seen in the morning were as characters in a drama, and he could only assure himself that he was not then dreaming by turning to his notes, and by summoning his servant. He suffered from a slight diarrhœa; the pulse was slow and weak; the hands were cold, and covered by a clammy perspiration. In all he said and did he was perfectly rational, and in the evening he presided at a lecture. These symptoms, in a modified form, lasted for three or four days.

The second case was that of an architect, who partook of the bacon only once, on which day he had sickness, depression, and chilliness. The following day he complained of a burning sensation in the throat, acute abdominal pains, confusion of ideas, and dimness of vision. Diarrhœa ensued, and a cold clammy perspiration.

The third case was that of a gentleman, aged 37, who partook of the bacon three times; felt nothing until the evening of the third day (having taken the bacon at breakfast in the morning), when he was seized with nausea, faintness, and spasmodic pains, in great intensity. The bowels acted violently; there was a great disturbance of the mental faculties, so that he found himself unable to make coffee, which he was in the habit of doing daily; other symptoms indicative of mental derangement followed, and convalescence was protracted for three or four days.

The mode of treatment pursued was the removal of the poisonous matter from the intestinal canal as soon as possible, and the production of reaction by the aid of stimulants.

The author then proceeded to observe, that he believed a large amount of disease was directly traceable to unwholesome food. He referred to the extremely impure state of the water supplied to London, upon which subject he had given evidence before the Health of Towns Commission. He showed that bread, meat, beer, &c., were often very injurious to the health, and he gave an extract from a "Statistical Report on the Physical Condition of the Working Classes of St. James'," showing that the milk supplied to that parish was obtained from diseased cows, confined in filthy sheds, and fed principally upon an empyreumatic "mash" from the distillers, and the grain from the brewers.

The author concluded by calling upon the medical profession to come forward and occupy its proper place in the van of those who are now endeavouring to carry out measures for the improvement of the public health, to enforce upon the government the necessity of adopting enlarged sanitary measures, and above all, to appoint properly qualified officers of health, whose duty it should be to investigate into all circumstances which tend to injure the public health, in order that they may be effectually and speedily removed, and their recurrence prevented.

Dr. Gregory said, that the confusion of thought and loss of memory detailed in the paper were by no means uncommon symptoms: they were frequently present in indigestion. Not generally so severe as in the cases detailed; although he (Dr. Gregory) had seen some instances in which they were quite as intense, without any probability of their depending on a specific poison in the system from what had been taken into the stomach. He inquired if other persons had partaken of the bacon; and also, if other members had seen similar loss of memory and confusion of thought dependent on dyspepsia, with faulty secretion of the liver.

Mr. Toynbee replied, that the three cases detailed were those of the only persons who had partaken of the bacon in London. The opposite shoulder had been eaten by some persons in the country; it was less decomposed, and fried instead of broiled; the broiling, according to Christison, dissipating the poisonous principle: at all events, none of these persons suffered from the symptoms he had described. The patients of whom he had spoken were of robust habits, had never suffered from indigestion previous to partaking of the bacon, and were now again quite well.

Dr John Webster believed, with the author of the paper, that the symptoms described were the results of the poisonous qualities of the bacon. In the south of Europe bacon was prohibited in warm weather, and was known in this country to be at certain seasons unhealthy. He remarked, that when cholera was prevalent in this country, he had frequently traced its origin to improper food, particularly bacon. He inquired of Mr. Toynbee, whether, in this case, the animal were healthy, and upon what it had been fed.

Dr. Golding Bird said that in his opinion the source of the poisonous influence of the bacon would not have been detected by chemical analysis. Indeed, he questioned whether any such toxic agent did

exist, either in the Wirtemberg sausages or in the bacon. The very persons who examined these substances, generally, were contradictory, and their statements after all were scarcely better than conjectures. Thus though they had suspected the presence of hydrocyanic acid, sebacic acid, and acrolein, they had failed to detect them. Even Brichner proved no more than that he removed the less injurious portions from the more active ones of the sausages which he placed under examination. The speaker believed that the explanation of these poisonous phenomena was to be found in Liebig's extension of the well-known law of a molecule in motion, having the power to communicate similar motion to other molecules with which it may come in contact. Animal matter, when putrescent, was in a state of irritation, and if taken into the stomach was either charged with albuminous or fatty matter, and underwent the process of digestion, as did more healthy food; or, if the digestive powers of the stomach were weak, the matter resisted the power of the assimilative functions, the putrescent molecules entered the blood, acted there as a septic poison, and produced symptoms characteristic of a highly deranged state of the nervous system. High temperature, as frying, and cooking generally, did not prevent the injurious effects of the putrescent food by its volatizing a peculiar poison, but simply by the production of a new series of chemical changes which attend the molecular arrangement of the unwholesome food, and render it quite harmless. Whatever the putrescent food, whether bad bacon, Wirtemberg sausage, or decayed Stilton, the conditions for the development of the injurious effects from their ingesta were the same, and consisted in a too feeble state of the primary assimilative functions to put an end to the molecular motion of which putrescency was constituted.

Mr. Toynbee had, during the progress of the cases detailed, been convinced by careful watching of the symptoms, that the effects developed were the result of the poisonous influence of a morbid poison. Researches since instituted confirmed this opinion, and therefore he differed entirely from the views expressed by Dr. Bird. In his work on Poisons, Dr. Christison devoted a chapter to the consideration of the peculiar poison which was engendered by the decomposition of animal matter. Whatever the meat in which this poisonous influence was engendered, whether bacon, veal, or sausages, the symptoms produced in the person eating it were identical, and much more severe than if they originated simply in indigestion. The train of symptoms described minutely and fully in his (Mr. Toynbee's) paper; the length of time which elapsed before they developed themselves; the slowness with which they disappeared, and the fact of the loss of memory being a symptom in the recorded cases of poisoning by sausages, all tended to confirm the opinion which he had given. He quoted Dr. Christison and others to show that a poison had been obtained by them from putrescent sausages, bacon, &c., of such power that a very minute portion of it administered to an animal had produced death, the symptoms preceding the fatal result being similar to those described in the paper before the Society.

*On some Points in the Structure of the Spleen and Supra-renal Capsules.* By C. Handfield Jones, M.B., Cantab., Assistant Demonstrator in St. George's Medical School. [Communicated by Mr. Prescott Hewett].

The author remarks that the work of Professor Muller contains all that is certainly known respecting the structure of the spleen, and the account given in this paper confirms entirely that of the German physiologist. He asserts that there are frequently found in this organ a number of peculiar cells, or rather vesicles, of distinct yellow colour, varying much in size, and generally aggregated in groups. These are traced throughout the animal series, and are found most developed in the lowest class, that of fishes, but in none of them are of constant occurrence. With regard to the nature of these cells, it is suggested that they may consist of biliary matter; but the point chiefly insisted on is, that they present an instance of secretion taking place in an organ which normally does not appear to exercise this function. The reason of the spleen thus differing from the true glands is shown to depend on the circumstance that is component cells are nuclei, and not true cells, though under certain conditions they do assume that form. The structure of the supra-renal capsules is next detailed, the medullary portion consisting of nuclei and a blastema, the cortical either of nuclei which have each become surrounded with a quantity of granular matter, so as to resemble closely an epithelial cell of the kidney, or of amorphous granular matter, sometimes forming small globular masses which are probably produced by the action of the nuclei. The supra-renal capsule is thus shown to approach more nearly in its character to that of the true glands, the cortical substance being regarded as an elaborated product of the medullary; this was confirmed by a subsequent remark, to the effect that in the fœtus the medullary substance very much exceeds the cortical, while in latter life the proportion is quite reversed. Finally, a question is raised whether the nuclei of the

spleen, being supposed to possess (as other nuclei) an attractive power, may not exert this specially on the blood corpuscle, and thus regulate the quantity of blood which the organ contains, and which, according to Dobson's theory, varies at different periods.

Dr. Handfield Jones had lately had an opportunity of examining the supra-renal capsule of a fœtus at the sixth month. He had found that the medullary matter formed the main portion of the organ, being surrounded by a thin slip of cortical substance. He thought that these facts tended to corroborate his view that the cortical matter was elaborated by the medullary, and was stored up around it in consequence of having no excretory duct for its removal.

Mr. Toynbee remarked, that although the bodies described by the author of the paper might be similar in colour, and appear to be constituted under the microscope like biliary matter, the only complete test of their exact nature was a chemical analysis.

Dr. Handfield Jones did not mean to assert positively that the matter found in the spleen was really biliary; he merely intended to draw attention to the fact of its being in that situation, and the similarity it it bore to the bile found in the liver of the frog.

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## AN ORATION

DELIVERED BEFORE THE

## ROYAL MEDICAL & CHIRURGICAL SOCIETY OF LONDON,

*At the Anniversary Meeting, held on Monday, March 2nd.*

By W. F. Chambers, M.D. K.H.
President,
Physician to the Queen, &c.

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Gentlemen,—I need scarcely remind you that this Society, like some others founded on similar principles, was established for the promotion of science, by the collection and public reading of essays on medicine and surgery, and the *vivâ voce* discussion of matters connected with the science and practice of every branch of our profession; and that the essays and commentaries collected and published by such associations as this, have this advantage over the contents of the ordinary journals of the day, that they are not only selected for publication by gentlemen of known respectability and eminence in their several departments, but that, by the constitution of our Society, it must happen that the weight and character and faithfulness of the contributors and contributions are placed in their just light before the Society, and, what is much more important, before the profession at large. The success which has hitherto attended our labours could not have been secured without the mutual confidence and perfect harmony which have subsisted, and the frequent intercourse which has been for so long a period uninterruptedly sustained, amongst us.

This, then, gentlemen, being the essence of our institution, and on these views our intercourse being founded, it is not unreasonable, after having for many years taken counsel together, for the improvement of our own knowledge, and, I trust, for the benefit of society, that we should sometimes avail ourselves of an occasion for counting our members, and passing in review before us the several characters and qualities of those who are no more, as material for sober reflection, and not allow those we have so long cherished as our associates to disappear from the scene of their activity and usefulness without one passing glance of affectionate retrospection.

Of those who have earned the melancholy right to stand in the obituary of the year, I will first name Dr. Robert Williams, to whom I feel myself bound by the ties of early professional friendship, as well as by those of common academical education. After the usual scholastic course, he was sent to Trinity College, Cambridge, where, although it was not his lot to be distinguished by high University rewards, yet he was known throughout his academic career to be one who was highly cultivated and accomplished; given entirely to literary pursuits, and cherished by the most distinguished of his contemporaries, many of whom have since filled high stations in the service of their country.

After graduating in physic, he betook himself to the medical schools of this metropolis, addicting himself chiefly to the opportunities of professional improvement afforded by St. Bartholomew's Hospital; and he subsequently became one of the physicians to St. Thomas's, which office he held till his death. To the duties of this office were added those of lecturer on the theory and practice of medicine. These duties he continued to execute with great zeal, until the germs of the disease which has now deprived us of him, began to interfere with his activity, and blunt the edge of his energies—an effect which, I doubt not, long before it was suspected of affecting him, had masked the vigour of a most active and talented mind with a supineness of manner and movement which it was impossible for those who had the pleasure of his acquaintance and friendship not to observe and lament.

But that his apparent supineness was not congenital or natural to him, but the effect of subsequent circumstances, is proved by a fact which is not perhaps known to many of

s, that at the early age of fourteen, having been taken by his uncles to North America, whither they were called by business as merchants, he passed through the perils of shipwreck on an island on that coast, which nearly cost him his life, and I am credibly informed, that throughout the voyage, and during the time of the greatest danger, his zeal, fortitude, and agility, were the theme of general admiration, and very mainly contributed to the ultimate safety of his fellow-voyagers and himself. As I have just now said, he was a man fond of science and devoted to literature; but the tendencies of his mind, in whatever department of knowledge it was engaged, were very peculiar. In the study of history, which was one of his favourite pursuits, it was his habit chiefly to occupy himself in analysing the campaigns of great generals, both ancient and modern, and acquainting himself with all the occurrences and events which bore on successful warfare, and all the errors and omissions which led to the defeats of the unsuccessful. In fact, I doubt whether he was unacquainted with the strategic history of any period of the world.

It will be readily believed that a mind of this enthusiastic cast was not exactly fitted for the dull and often repulsive realities of the study and practice of medicine; perhaps, however, I ought not to say the study of the science, for I believe he had never been deficient in his application to the pursuit of medicine as a science, as was sufficiently evinced by his elaborate work on the "Elements of Medicine;" but his mind was not, I think, calculated for prosecuting its practice with success. He had, in truth, little faith in physic; nevertheless he could not be said to be idle in therapeutic research, for he had early imbibed a strong opinion in favour of the efficacy of specifics in the cure of disease, so that he was always more or less engaged in seeking them and applying them to his practice, and he was sanguine in the belief that in good time he should discover specific remedies for many maladies which are now considered irremediable, and that even phthisis pulmonalis itself would bow its head to the power of some agent derived from the animal, mineral, or vegetable kingdom. I wish I could say that the researches of our late friend and president had been as successful in these investigation as his zeal and benevolent perseverance richly deserved.

In alluding, however, to his failures in the search after specifics for the alleviation of human suffering, I must not omit to say, that in one instance, at least, he was eminently successful—I mean, in the investigation of the uses of the iodide of potassium in cachectic diseases, particularly those in which the bones and periosteum are the seats of swelling and pain. These he showed to be under the peculiar influence of this powerful agent, with a degree of clearness and fidelity which have left little more to be said on the subject.

It is worth while, however, to remark, that since Dr. Williams published his remarks on this salt, and mentioned seven or eight grains, given thrice daily, as its average dose, many of those who have fairly tried this agent have come to the conclusion that this is too large a dose to be safely prescribed in all cases; and this is consonant with my own experience, and I believe I might quote some of the most eminent of my colleagues as agreeing in this opinion. I do not mean to say that much larger doses are not daily given, without injury to the patient, but that two grains given twice or thrice a day will serve every purpose which the salt is capable of effecting, and that in particular constitutions (like those who are subject to the erythism of mercury) an idiosyncrasy exists, which may, after a very short use of larger doses, cause extreme prostration, and fatal syncope. I have myself seen more than one instance of a fatal result from full doses of it. In one of these —a case of ovarian tumor of a very moderate size, and attended with no danger whatever previously—the patient had taken five grains thrice a day for a very few days. But to return.

Those who recollect Dr. Williams occupying this chair, need not be reminded of the good sense, urbanity, and talent, with which he uniformly discharged his duty, whilst the friends who saw him and knew him in private life, bear testimony, with one voice, to his domestic and social virtues, to his candour, justice, and universal philanthropy.

The next name which presents itself to us in the catalogue of those who have finished their mortal course in the past year, is that of Sir Matthew Tierney. Mr. Stanley, our late president, in his elegant notice of Sir Henry Halford, touched on the art of conciliating the attachment of the eminent and powerful (principibus placuisse viris), displayed by that most successful physician, who, he justly remarked, had, during a great portion of his life, formed, as it were, a fast link of union between the profession and the court.

Sir Matthew Tierney affords us a striking proof that there are more paths than one to the honourable distinction which his late colleague had achieved for himself. The former, starting from the academic shades of Christ Church, and associating through life with those who had been the companions of his youth, participating in their classic pursuits, and imbibing the refined tastes and feelings of the most accomplished amongst them, seemed to be early identified with the

aristocracy, and to find the doors of the court opened to him the moment he applied for admission. Sir Matthew Tierney, also, during the active portion of his life, enjoyed, in a very high degree, the favour of the court, and the confidence of those who moved within its precincts. His path to eminence was, however, cleared by himself; he made his way, step by step, to those distinctions which seemed, as it were, to be thrust on his co-partner in courtly honours. It is not my intention on this occasion to encroach much on the province of the biographer; it will be sufficient to say, that his accidental residence at Brighton with the regiment of which he was surgeon, introduced him to the heir-apparent, who, attracted by his manners, and his skill and decision in practice, contributed to his elevation (within an unnsually short period of time) to a high station both in the profession and in society.

Time will not allow me to dwell much longer on the history of this eminent physician. There was, however, one anecdote related of him some years ago, which, as it strikingly illustrates his professional qualities, and involves also an important point in medical ethics, I think worthy of being mentioned on the present occasion. I will relate the anecdote, as it was communicated to me by a gentleman who was an eye-witness of the facts:—It happened, on the morning of the accession of George the Fourth, that his majesty was seized by a violent inflammatory cold, for which he was attended by one of his physicians, who, thinking he had relieved him effectually, and being himself summoned out of town, left the king, with an injunction that he should not permit himself, on any account, to be bled. Unfortunately, however, towards the evening the inflammatory symptoms increased, and Sir Matthew Tierney, on being called to his assistance, immediately decided on the necessity of venesection,—a measure which was objected to by the king, and some of those who surrounded him, on the ground of the strong opinion given against it a few hours before. Sir Matthew, however, respectfully, but steadily, insisted on the measure, and the obvious and signal relief experienced from it by the patient fully justified the determination of the physician, and firmly established his character as a man of sound judgment and no ordinary decision.

Now nothing, I think, can show in a more distinct light than this case, the inexpediency of leaving a patient with any prohibition as to subsequent treatment, when we are obliged to resign him into other hands; an expediency which involves the safety of the patient, our own credit, and the credit of the science we profess: aggravating, in truth, very unjustifiably, the responsibility of your successor, who, if he be not a man of strong nerve, may, by the weight of authority, be brought to hesitate about a measure which it is of vital importance to the patient to have executed without delay or modification.

But however this may be as to others, this incident was certainly of great advantage to the subject of our present notice, in establishing his high character as a skilful and resolute physician, amongst those whose good opinion it was most important to him to conciliate and secure.

I must not omit to say, that Sir Matthew had by this time been created a baronet, and adorned with other decorations, which, however humbly they may stand before the world in the scale of such distinctions, are considered by the rulers of this great country, (which owes so much to the successful cultivation of the arts and sciences) as quite sufficient to satisfy the ambitious aspirations of men of the most distinguished professional or scientific eminence.

Sir Matthew Tierney lived after this time to an advanced age, in riches and honour, cherished by his friends and patients, and most esteemed and beloved by those who knew him best. He died at Brighton, in October last, from an attack of gout, by which he had been much afflicted, having just attained the 70th year of his age.

It has been well observed by the learned author of the "Medical Portrait Gallery," that the next subject of our notice, Dr. James Johnson, through a long and chequered life, seems to have offered an exception to the dictum of the poet, "haud facile emergunt quorum virtutibus obstat res augusta domi." Dr. James Johnson, by birth an Irishman, was educated in Ireland, and spent in that portion of the United Kingdom his earlier years, making the fullest use of what might be called very slender helps to learning and science, but he used them with a degree of success which few who have had the most ample means of accomplishing themselves have attained.

It is not my purpose to follow our late friend through all the difficulties he encountered, and all the kindness he experienced (on account of the manner in which he mastered those difficulties) from his superiors in the service which he had chosen as the arena of his earlier professional labours. It will suffice to say that, after having served his country in almost all parts of the world with great zeal and credit, he collected in a volume he now published, the results of his experience as to the character and treatment of the diseases of the East, where he had been occupied in very arduous professional duty for three or four years.

This work, his celebrated treatise "On the Influence of Tropical Climates on European Constitutions," which was published in 1812, has passed through many editions between that year and the present. I have a right, therefore, to call it deliberately his celebrated work, for time has already sealed it with a permanent reputation. It is a work displaying the most distinct views of disease, and the utmost perspicuity as to the means by which those views were to be carried into practice; and though it was evidently the effort of one who was not used to the artifices and technicalities of composition, yet very soon after its publication its became almost the text-book for medical practice throughout India, both on land and at sea. Indeed, its most remarkable feature was one which does not certainly belong to all medical works—namely, that, like the "Processus Integri" of Sydenham, and Pemberton's treatise on the Abdominal Viscera,—although by no means waiving the consideration of the pathology or theory of disease,—it at once teaches the tyro in medicine, if called on to treat the diseases described in it, to act on its instructions with almost as much confidence and safety as if the author were present as his living instructor.

But however successful in this first effort of authorship, it was followed by one of Herculean character, which, although well-known and much valued by the profession, did not, in my humble judgment, secure him a tithe of the credit and praise which the magnitude of the attempt, and the complete success with which it was attended, so abundantly merited. I need scarcely say, I allude to his undertaking, alone and unassisted, the conduct of the *Medico-Chirurgical Review*, and being often himself the author of every original article in each number. This work had, as we all know, deservedly the most extensive circulati on both at home and abroad, in the new as well as the old world.

Dr. Johnson, however, although largely occupied in practice, and contributing his full share to the medical literature of the day, was not a mere professional author; for he found time for the publication of some very lively works, chiefly of travels, all tending more or less to our improvement in the physiology of man, and the modes in which such knowledge may best conduce to the health and happiness of his fellow-creatures.

Dr. Johnson's manners were plain, but breathed much kindness of feeling towards his patients, and perfect openness and candour towards his brethren; but I cannot better sum up his character than in the glowing language with which filial affection has inspired the author of the short memoir of his life and writings just published. He says, "If we look back on Dr. Johnson's career, we cannot but deem it a successful one. He started in life without money, friends, or education. By his energy and talents, he worked out for himself education, a profession, reputation, and a competency, if not a fortune. He gratified his tastes while he raised his position: fond of observation, he saw a large portion of the globe; and happy in describing what he saw, his writings were a source of emolument and honour. By taste, by circumstances, he was the child of literature, and literature was to him most bountiful: his name was noised abroad by his popular writings. His fame will live with his standard works. Ambitious of a good rather than a great name, the general regret that waited on his loss proves that that ambition has been gratified. If he dreaded anything, it was the decrepitude and childishness of declining years: he was spared both; he practised his profession as successfully as ever within a week of his death. He did not worship wealth, but he desired a sufficiency: he obtained it, bequeathing to his widow an easy independence, and to his children what will sustain, though not debauch, their industry. What he prized above all things was integrity and honour; and he has left a name which is synonymous with both."

Dr. John Warburton offers, in the accidents and incidents of his life and character, a singular antithetic parallel to that of the physician whom we have just now commemorated. Dr. Johnson laboured through poverty to riches; Dr. Warburton was born and nursed in competency, and grew up and lived and died in opulence, presenting throughout an eminent example of youth unallured by wealth into idleness or vice, but spent in the due cultivation of his mind and faculties, so that, besides possessing himself of the ordinary education and accomplishments of an English gentleman, he became a considerable proficient in mathematical science, which the high degree he took at Cambridge sufficiently testifies. Having completed his general education at that university, he devoted himself to the studies of his profession in this metropolis, and turned his mind particularly to the treatment of the insane. This at length led to his election to the office of physician to St. Luke's Hospital. There he laboured most heartily in his vocation, and distinguished himself not only by exemplary kindness and attention to the patients, but also by the most anxious solicitude for the melioration of the institution itself.

We all know, gentlemen, with regard to the legal evidence of insanity, what difficulties it involves, and how hardly and coarsely the members of our profession are

often treated when called on, in courts of justice, to discuss popularly, and yet metaphysically, the boundaries of soundness and unsoundness in the human mind. It is but fair to suppose that he had, in his long life, a due share of the embarrassments which such cases present to the mind of the conscientious physician. But such were his skill, discretion, and presence of mind, that we have no instances on record, in which he did not acquit himself, not blamelessly only, but without the praise of unimpeachable uprightness and honesty. In short, he always appeared to me to be of that class to which we happily can enumerate so many in our ranks, who, without any great brilliancy of career, contributed largely to the sustenance of the character of this country for sound and sober good sense, and the highest moral and intellectual purity.

Dr. Warburton lived in comfort, in the exercise of all the social virtues, attaching to himself a large circle of distinguished friends, and enjoying the advantage of having concilated the regard and approbation of one of the most eminent men who have been enrolled amongst us. I need scarcely remind you, that he was the friend and son-in-law of Abernethy.

With Dr. Theodore Gordon, one of our vice-presidents, of whom death has prematurely deprived us, I had the pleasure of being intimately acquainted, and can speak with great sincerity and satisfaction of his gentle, unassuming, and retiring manners, combined with very considerable medical lore, and great skill and decision in the application of his knowledge to practice. He had spent his youth and the flower of his age in the medical department of the army; and it is remarkable, that though from his habits and dispositions he was eminently qualified for the occupations of civil life;

"Though peaceful olive rodded o'er his crest,"

or, as Virgil says of the Marrubian sage,

"Fronde super galeam et felici comptus olivâ,"

and girded only for the benigner purpose of administering to the sufferings of his fellow-soldiers; it was his extraordinary lot to have been in the midst of more deadly combats and frightful carnage than many of those whose lives have been dedicated to the profession of arms. In the 18th year of his age, after finishing his education at Aberdeen and Edinburgh, he entered the army in 1803. He first served in Hanover, and afterwards followed his regiment (the 91st Foot) to Portugal. He was present at the battles of Rolica and Vimiera, and narrowly escaped with his life in the latter engagement; and after being present at the battles of Salamanca and Vittoria, the affair of Burgos, and the seige of St. Sebastian, and the passage of the army into France, on which occasion he was severely wounded on the head and neck,) he accompanied the Duke of Wellington from Brussels in his triumphant progress to Paris after the battle of Waterloo. Here he laboured in his benevolent vocation amongst the wounded French at the military hospital of St. Louis, and on the re-establishment of peace he returned to his country, and having passed through labours and dangers on actual service which would have entitled him, had he been anything but a physician, to the most dazzling honours and enviable distinctions which a nation can bestow, he was rewarded for his long and able services by being appointed Deputy Inspector of Hospitals and Professional Assistant to the Army Medical Board Office, in which latter position he laboured (and it was no mean labour) till within a few weeks of his death. He died at Brighton in the fifty-third year of his age, and the examination post-mortem verified the previous diagnosis of his medical friends, by exhibiting his lungs extensively diseased, and the right side of his heart dilated and much attenuated.

We have also to lament the removal from our ranks by that merciless disease which we see every day grasping the most intelligent and the most interesting of our fellow-creatures, and against which the expedients of our art are almost powerless; I allude to Dr. Hocken, a young physician of great promise and very early reputation. Born in the west of England, he settled in London, having attached himself to St. Bartholomew's Hospital, where he prosecuted with great praise his medical and pathological pursuits, devoting himself at first very much to subjects connected with ophthalmic disease, but afterwards extending the range of his studies to matters of general interest. Amongst the fruits of his labours in the cause of medical science, I may particularly mention his "Treatise on the Comparative Effects of Mercury and Iodine in Specific Diseases," and his "Observations on Endocarditis and Pericarditis," efforts highly creditable to his precocious talents, and giving us an earnest of future eminence and success, never, alas! to be realized, for he was removed from us by his early death (in the twenty-fifth year of his age) at the house of his brother, in Cornwall, whither he had retired by the advice of his medical friends, as holding out the only prospect of arresting the progress of the malady with which he was already too surely and too fatally affected.

There are some more names in the long list of the losses of the last year to whom I grieve to say that our time does not allow me to do justice, but whom I cannot pass by without a few words of recognition.

Amongst these I would first mention Dr.

William Fergusson, an army physician of distinction, who, after long military service, retired to Windsor, and practised there, with great acceptance and credit, to a very advanced age. Of his industry and talents he has left to this Society abundant proofs in the second, fourth, and eighth volumes of our Transactions. His first paper was one "On the Mercurial Treatment of Dysentery." This was followed by a very able and interesting treatise "On the Malignant Venereal Disease in Portugal," and in the eigth volume he published his "Inquiry into the Origin and Nature of the Yellow Fever in the West Indies," in which he generally agrees with the opinions of Dr. Bancroft as to the absolute non-contagiousness of yellow fever, differing from him altogether, however, as to the Mediterranean fever, which he considered, also, to be miasmatic, and not contagious.

Of Dr. Morris Pritchett, a naval physician, and licentiate of the College of Physicians in London, whom we have also lost within the last year, it should be recorded, that he, in the year 1841, accompanied the expedition to the Niger and the western coast of Africa, in her Majesty's steam ship, Wilberforce, in which, under his care, the mortality was unusually small; and, after his return, he published an excellent treatise on the African fever, which he traces altogether to miasmatic influences, and treats with purgatives, full doses of calomel and James's powder, and quinine.

To this list must be added the names of William Tudor, Esq., long an eminent and well-known practitioner at Bath;—of John Rodd, who, after filling every subordinate office in the medical department of the army with great credit, attained, before his death, to the rank of Deputy Inspector of Hospitals;—and, lastly, of our most respectable associate and neighbour, Mr. John Wallis Lambert.

A very few days ago I thought I had prepared myself to notice, however imperfectly, all the losses this Society had sustained during the last year, when I was astounded by the information that our late friend and colleague, Sir George Lefevre, was no longer amongst the living. His history may be very shortly given. He was born at Great Berkhampstead Herts., and received his medical education at Edinburgh, (where he graduated,) as well as in London, where he attended, with great assiduity, the practice of the Borough hospitals. He was first a licentiate, then a fellow of the Royal College of Physicians of London, and after a few years, becoming attached to the household of an opulent Russian nobleman, at his instance he resided at St. Petersburg, and was for many years physician to the British Embassy at that Court. For this service he received the honour of knighthood by patent, when, after winning the respect and regard of the British residents at that metropolis, as well as many of the Russian nobility, and realizing a competency, he determined to return to his native country, (with the results of which resolution we are all familiar in his various works,) and spend the remnant of his days in the leisure practice of his profession, in literary pursuits, and in the society of his friends, of whom he had secured a large and much-attached circle; but alas! for the views and resolutions and anticipations of mortality!

He returned to England, and for some time seemed delighted with his own position in the profession and in society in general, which, from his cheerful mind and manners, he seemed well calculated to adorn, when all his vital energies began to fail him, and those who saw most of him observed that he was daily more and more cherishing hypochondriacal feelings, which a gradually increasing uneasiness in the region of the heart tended to aggravate, and which caused at length an attack of fever and cerebral irritation: these were the obvious causes of his unexpected decease.

He had wrested, some time previously to his death, from a medical friend whom he prevailed on to examine him, the fact that the heart was embarrassed by slight thickening of the mitral valve. On this occasion he called on me, and expressed his horror at the discovery which had been made, in terms so much out of proportion to the actual evil, that I thought it my duty to press on him the slightness of the defect, and its comparatively mild character; for it was evidently one of those cases (as was proved by the post-mortem examination) of chronic endocarditis in which the valves become thickened by slight inflammation, perhaps of an arthritic character, rather than by the ossific diathesis with which we are familiar in old age, a distinction well worked out in Dr. Latham's last very able and useful treatise on Diseases of the Heart. But it was in vain to reason with him on the subject, for he would not be comforted. From this time he failed rapidly in health, and never recovered either his bodily strength or his intellectual vigour. I was well acquainted with him, and from the circumstance of his having married a relation of mine, enjoyed a degree of intimacy with him which afforded me much satisfaction; he was, in one word, a most amiable member of the profession and of society. His cheerfulness, indeed, in the midst of domestic misfortunes of no ordinary intensity and bitterness, were most remarkable, whilst his kindness to all around him, and especially to a large circle of relations, who depended on him for advice and comfort

and countenance, was sufficiently testified by the profound grief with which he has been lamented by them. But I need not enter at any greater length on these melancholy considerations. I would endeavour, rather, to lead your minds to the recollection of his kindly and benignant qualities,

"Purpureos spargam flores;"

and in concluding this tribute to his memory, leave you reposing rather on the contemplation of the brighter traits and amenities of his life than on its shadows and misfortunes.

It only remains that I should congratulate the Society on its thriving condition, and thank you, at the same time, for the patient indulgence with which you have accepted my inadequate attempts to do justice to the duties you have imposed on me, by placing me in this chair, and especially that duty which has devolved on me this day; and to offer you all, individually and collectively, my best wishes for your future success and prosperity.

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## SOUTH LONDON MEDICAL SOCIETY.

March 5, 1846.

EDWARD COCK, ESQ. IN THE CHAIR.

DR. ALDIS alluded to the case of constipation mentioned by him at the last meeting: since then the patient had sudden pain and tenderness of the abdomen, and died after obstruction of twenty-eight days. After death, perforation and extravasation of fæces were discovered at the junction of the transverse and descending colon, with malignant disease and narrowing of the sigmoid flexure: the narrowed portion only admitted a director. There was also extensive ulceration and incipient gangrene of the intestine, and effusion of lymph.

### *Aneurism of thoracic aorta, with symptoms of enlarged heart.*

Dr. ALDIS then related the following case. A sailor, aged 50, who had suffered from rheumatism eleven years previously, after which he had palpitation and dyspnœa for four months, and was supposed to have had rheumatic pericarditis, was admitted into St. George's Hospital, Sept. 26th, 1832. He then had dyspnœa, paroxysms of wheezing, palpitation and strong action of the heart. Notwithstanding the violence of the heart's action, the pulse at the wrist was exceedingly small and weak. To account for this it was supposed there might be a tumor pressing on the vessels, or an aneurism; and the heart, endeavouring to overcome the impediment to the circulation, was using extraordinary exertion; or, again, the aorta might be contracted. The report of the patient continued, that the pulse was at times scarcely perceptible, again becoming perceptible and regular. On the 5th January following, he is reported to have had violent pulsation, and increased action of the heart, but no bruit was audible, and there was no pulsation in the left wrist, and scarcely any in the right. On the 8th the pulse in the right was again distinct and regular, still absent in the left. Early in February he had great pain across the *middle of the back*, also in left hypochondrium and scrobiculus cordis, succeeded by a pain like a cord drawn tight round the chest and back.

April 26th, a very weak pulse perceptible in the left wrist, after an absence of three months. In May, a pulsating tumor appeared on the left side of the spine, about the 7th dorsal vertebra; tender on pressure. The superficial veins of left side of the neck, and left and right breast and arm, were much distended; increased sensibility in the course of the intercostal nerves of left side; countenance full of apprehension; the pulse not perceptible in the left arm, except slightly at the axilla and bend of elbow. The symptoms continued much the same, the tumor enlarging, and the man died in the September following.

After death, on raising the sternum, the heart was found much elevated by the aneurism behind it; flabby and not enlarged; no evidence of pericarditis. The aorta was dilated, and formed into an aneurismal pouch, extending from an inch below the left subclavian artery to the left crus of the diaphragm, being about the size of a pint basin. It had produced absorption of great portions of the bodies of six of the dorsal vertebræ, and three ribs, through which the aneurism protruded. It contained two or three portions of unabsorbed rib. The aorta was dilated above the aneurism from the heart, and contracted below. The muscles covering the aneurism were much wasted. Considerable effusion in both pleuræ; in the left some old adhesions. The lung, compressed and softened, adhering firmly to the aneurismal sac.

The author remarked, that many who examined this case before death were of opinion that the heart was decidedly enlarged, from the very strong impulse occasioned by it. It was instructive in shewing that the impulse of the heart may be increased almost to any extent, without corresponding hypertrophy, under certain circumstances.

In reply to Mr. CRISP, Dr. ALDIS could not speak as to the condition of the arteries at the arch of the aorta.

Dr. CHEVERS alluded to a similar case, lately observed by Mr. Hewitt, where a gentleman about 60 years of age had severe pain in the course of the intercostal nerves on the left side, and violent pulsation of the heart. There was no increase of dulness in

the precordial region, and no bruit or other physical evidence of valvular disease. The pain in the course of the intercostal nerves suggested the existence of an aneurism; but other signs of aneurism being absent, it was considered to be a case of concentric hypertrophy—a condition of the heart which he (Dr. Chevers) had never seen, and which he suspects exists only in the imaginations of authors. After death, a large aneurism was found in the descending thoracic aorta, which had pressed the heart forward, and had evidently produced the derangement of its actions, as the organ itself was free from hypertrophy, and there was not the slightest appearance of obstructive valvular disease. He considered the greatly increased pulsation, without increased dulness, a valuable diagnostic sign in these cases.

Dr. GULL remarked that cases of thoracic aneurism frequently occur without a bruit, and instanced that of a man who suffered from dysphagia, and had a wearing pain in the back, either in the precordial region or down the back in the course of the aorta: although several very careful examinations had been made, no bruit was perceptible. An aneurism was discovered which had absorbed the bodies of the vertebræ, and opened into the œsophagus. He considered that this case, together with those related by Dr. Aldis and Dr. Chevers, shewed that the absence of the bruit must be regarded as of entirely negative value in the diagnosis of aneurism. The absence of this common sign did not, however, lead those under whose care the last-mentioned case was, to decide that no aneurism was present, for the pain complained of was so characteristic as entirely to outweigh any contrary probabilities arising from the absence of other signs. In proof of the diagnostic value of this gnawing wearing pain occurring in aneurism, he could quote many other cases. There was a persistence in it, and a character altogether peculiar, and which, by the expression of suffering it produces, makes the aspect of the patient almost pathognomonic. When the patient whose case he had narrated attempted to swallow a draught of medicine, it invariably returned at once, not by being vomited, but by a regurgitating action of the œsophagus. A pill, or food taken a teaspoonful at a time, passed down readily. The manner in which the aneurismal tumor was found to have compressed the œsophagus fully explained these symptoms.

Dr. CHEVERS had examined the diseased parts in the case related by Dr. Gull, and considered that their state enforced a very important practical caution. He found that the aneurism had compressed the œsophagus, and had produced an oval aperture in its coats, about an inch in its longest diameter. This opening had evidently existed for a considerable time, as its edges were completely rounded, and there was not the slightest trace of recent ulceration, vascular injection, or sloughing in its vicinity. The opening had evidently been closed by adherent layers of fibrine which had formed within the aneurismal sac, and which had been the sole means of preventing hæmorrhage up to the moment of the fatal gush. In cases of dysphagia surgeons were in the habit of introducing a probang or other instrument, for the purpose of ascertaining the cause of obstruction, or of dilating a stricture. Had an instrument been introduced in this case, it must almost inevitably have entered the aneurismal sac, and produced instantaneous death. He did not believe that the introduction of instruments into the œsophagus was ever calculated to prove beneficial in cases of dysphagia, depending upon organic lesions, and that, in instances like the present, it was liable to produce the most dangerous injuries.

Mr. ROBINSON considered it rare for aneurisms to burst into the œsophagus; in the course of his experience he had not met with an instance of the kind. The pain in the back was doubtful as a diagnostic sign, as it was produced by pressure on the intercostal nerves, and any tumor would cause the same pain; he had seen several cases of aneurism in which it did not occur.

Dr MUNK did not consider it rare for an aneurism to open into the œsophagus, having seen three instances of this kind in the course of three years.

Mr. CRISP agreed with Dr. Gull as to the pain; he related an interesting case of a man who had pain in the back and side, supposed to be rheumatic, and died suddenly, when an aneurism was found which had destroyed three or four vertebræ, and ruptured into the lung. At the time of rupture the patient had hæmoptysis, had walked down stairs, and then died. He considered that aneurisms of the aorta generally depended upon violence, and that an aneurism was seldom spontaneous. Rupture into the œsophagus was not an extremely rare occurrence. In all cases of suspected aortic aneurism, the pulse in both wrists should be examined, as there is not unfrequently obstruction in some of the branches arising from the arch.

Dr. HUGHES confirmed the statement of Dr. Gull and Mr. Crisp, that a persistent gnawing pain is a very frequent attendant upon aneurisms of the descending aorta; but observed that, in addition to the constan pain, there were generally paroxysms of int tense suffering. This happened in a very marked degree in the case referred to—a peculiarity in which was, that though the aneurism burst into the œsophagus, and the blood descended and formed a complete mould of the stomach, the patient did not

vomit, nor was there any appearance of blood externally. It was indeed true, as stated by Mr. Robinson, that other tumors besides aneurisms might, by their pressure upon nerves, give rise to great pain; but it was not so common, and usually not so severe, as that arising from aneurisms—a circumstance which in all probability arose from the absorption of bone which so frequently resulted from the pressure of aneurisms, but was much less commonly a result of pressure in other tumors. A case occurred many years ago in Guy's hospital, in which the late Dr. Cholmeley, from the peculiar character of the pain, prognosticated it would be found to arise from aneurism. Though for some time there appeared no other evidence, and almost every one who examined the patient could perceive no evidence of its existence, and could arrive at no conclusion upon the cause of the pain. At length a pulsating tumor was distinguished, and confirmed the correctness of the doctor's diagnosis. It was now proved by abundant evidence, that the bruit or murmur which was formerly supposed to be an almost necessary attendant upon aneurism, is far from being always present. If the tumor press not upon the course of the artery,—if the opening into the sac be direct, and of large size,—if, in fact, there be no obstruction to the passage of the blood either along the artery itself, or into the tumor, there exists no unusual agitation of the fluid, and consequently the murmur, thrill, or bruit, which is the simple effect of such agitation, is not produced. The fact is evident, and its explanation appears sufficiently simple.

Mr. Hicks related the case of a gentleman who was thrown from his chaise; the only symptoms were pain in the back and slight hæmoptysis. He died suddenly, and an aneurism was found, having burst into the lung and perforated the pleura, the left pleura being filled with blood.

Dr. Chevers differed from Mr. Crisp in the opinion that aneurism of the aorta usually depends upon violence. The only form of aortic aneurism in which there is any evidence of primary laceration of the coats of the vessel, is that rare kind of disease known as dissecting aneurism. He had met with several cases where the patients had attributed aneurism of the aorta to some violent effort or injury, but where he found, after death, that the lesion had depended upon gradual dilatation of the coats of the vessel. He believed that, in such cases, the symptoms produced by the blow or violent exertion depended upon the separation of parts external to the sac, and the consequent sudden increase in the size of the tumor.

Mr. Crisp remarked, that in the recorded cases of dissecting aneurism the disease was not attributed to violence—that dissecting aneurism occurs chiefly in old people, and in the same proportion in women as men; he had found in his examinations that, although many aneurisms appeared to be of the "true" kind, there was rupture of the fibres of the internal coat, the middle giving way, and the external expanding. He observed, that a man may have a large aneurism, and yet appear in perfect health.

Dr. Gull still maintained that the pain in the back is often very diagnostic, but the patient does not necessarily refer the pain to the seat of the aneurism. A young woman about 24 years of age, somewhat anæmic, was admitted into Guy's Hospital several years ago, complaining of great pain of a gnawing and wearing character, situated in the left hip-joint; the joint was carefully examined, but no disease detected; she had no other symptoms, except being occasionally hysterical; the disease was thought by some to be hysterical disease of the hip-joint. After being in the hospital a short time she complained of a sudden pain in the abdomen, and was much collapsed, and died two days subsequently; on inspection it was found that a large aneurism of the lower part of the abdominal aorta had given way, and a large quantity of blood was extravasated behind the peritoneum, extending upwards between the pillars of the diaphragm into the chest, and downward into the right iliac fossa. In this case the aneurismal sac had irritated the lumbar nerves which pass over the crista ilii, and according to the common law of sensation the pain was referred to the extremities of the nerves.

Dr. Hughes confirmed Dr. Gull's description of this case, which occurred under his care; and related another of acute pain in the groin, recurring in violent paroxysms, and resisting all treatment, where aneurism was suspected and an unfavourable opinion given. In the act of dying the patient vomited a small quantity of blood.

Mr. Hicks then related a case illustrating some interesting points in the diagnosis between cerebral and cardiac disease. Its details will appear in the next report.

The society then adjourned.

At the next meeting, March 9th, Mr. Charles Taylor will relate a "case of malignant tumor occupying the right side of the chest," with the post-mortem inspection.

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## WESTMINSTER MEDICAL SOCIETY.

February 21, 1846.

Dr. Sayer, President, in the Chair.

*Remarkable Disease of the Ankle-joint.*

Mr. Harding related the following case:—Six years ago a young lady met with an ac-

cident, and severely injured her foot and ankle. Considerable pain, swelling, and inflammation followed. This was treated by the frequent application of leeches, foot-baths, and warm-water fomentations. At the expiration of a month the swelling and inflammation had subsided, but the pain remained about the joint. To relieve this she was advised by a friend to remain in bed a certain time, and with this perfect rest the pain also disappeared. Fancying herself now quite well, and nothing doubting her ability to walk, she got up, and attempted to cross the room. To her great surprise, however, the foot doubled outwards, and she fell upon the ground. Very many subsequent efforts were made, but always with the same result; the foot doubled outwards, and, like a broken bone, refused to support the weight of the body. To find relief, she sought from time to time the advice of many eminent surgeons, but no benefit resulted, and she was obliged to use a crutch, which she walked with for three years, when the following plan was devised and proved successful. A certain quantity of prepared chalk and acacia powder was mixed together and made into a thin paste with water. A common calico bandage, eight yards long, was saturated with this mixture, and applied wet round the foot, ankle-joint, and about three inches up the leg. The foot was kept perfectly at rest until this bandage was quite dry, when it formed a firm hard case of cement round the part. With this support she could walk without assistance tolerably well, and, when accustomed to it, could take very active exercise, and even dance the most fashionable dances of the day with ease and agility. She does not, however, rest on the heel, but supports the weight of the body upon the fore part of the foot. The bandage requires to be removed about ounce in three months, which is done by soaking the part for a considerable time in warm water. When the bandage is off, the foot is just as powerless now as it was a few months after the accident.

In the discussion which ensued, it was remarked by several members, that cases of hysterical affections of the joints often presented anomalous and remarkable symptoms. In this case, however, there was no evidence whatever of the presence of hysteria, and the joint appeared to have really received a severe injury.

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FOREIGN MEDICAL BOOKS.

The Minister has positively declined taking off any portion of the duty on foreign books imported into England.

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# Hospital and Infirmary Reports.

## UNIVERSITY COLLEGE HOSPITAL.

*Case of Ovarian Dropsy; fatal termination.—Post-mortem Examination.—Clinical Remarks by* Dr. A. T. Thomson. [*Reported by* Mr. H. Bencraft, M.R.C.S.E. Senior Physicians' Assistant.]

Grace Lawler, æt. 73, admitted on the 16th Febrary, 1846, of ordinary stature, and robust conformation. For many years past she has filled the situation of cook and housekeeper. She has lived in London for the last five years. Is a widow, and has had four children; the last more than forty years ago. She is naturally of a cheerful disposition, and has always enjoyed very good health. Her parents died at an advanced age. Three years since she perceived a small tumor at the lower part of the right side of the abdomen; it continued to increase in size, gradually extending upwards, and filling the cavity of the abdomen; this increase in its size has been going on up to the present time. Until lately she has not experienced any ill effects from it, her health remaining perfectly good. At present a large tumor, affording a sense of fluctuation, is felt in the abdomen, rendering it very tense, occupying the whole cavity, but being situated more on the right side than on the left. It can be lifted from its position, and seems to have very little attachment to the adjacent parts. Lately her appetite has failed; she has complained of difficulty of breathing, has lost a good deal of flesh, and feels much weaker than she did. She is very desponding, and fearful that she will not recover. In consequence of the great distension of the abdomen present, and the unpleasant symptoms resulting from it, it was thought advisable that the operation of paracentesis abdominis should be performed. Preparatory to this, she was ordered to take half an ounce of castor-oil in an ounce and a half of peppermint-water. This operated gently on the bowels, and on the 18th the operation above alluded to was performed by Mr. Liston. A trochar was introduced about two inches below the umbilicus, and three quarts of clear yellow serum were drawn off. A considerable quantity also oozed out after the operation, saturating the bandage and bed-clothes. The fluid was highly albuminous. The patient felt rather faint, in consequence of which a little wine and water was given.

19th.—She slept but little last night. Is desponding, and complains of being very low. She has had slight rigors, and there is a little tenderness of the abdomen. Pulse 100, small and weak. Ordered to take a

little brandy and water at intervals. She continued, however, to sink, and died at 10 o'clock on the following morning. Up to the time of her death there were not any well-marked signs of peritoneal inflammation. The body was examined 27 hours after death. On opening the abdomen, it was found to contain a large encysted tumor, so large as almost entirely to fill a wash-hand basin, and principally situated on the right side of the abdomen. The intestines were pushed backwards, and to the left side; it was connected to these viscera by recent adhesions. The vessels of the parietal and visceral peritoneum were highly injected, giving evidence of the recent existence of inflammation of that membrane. The uterus was pale and small; the right ovary healthy; the left fallopian tube obliterated. The tumor proved to be cystic disease of the left ovary; it was connected to the left side of the uterus by a narrow pedicle. It consisted of one large cyst and numerous smaller ones. The interior of the larger cyst was lined by a distinct membrane; and projecting into its cavity, and beneath this membrane, were numerous elevations, which, on being cut into, were found to be other cysts, which again contained other and smaller ones. The contents of the various cysts differed much in their nature. Some of them contained clear serum, others a clear fluid, but thicker and almost mucilaginous in consistence, whilst in some of them the matter was yellow, and of the consistence of cream.

Clinical Remarks.—In this case the diagnosis of the disease was sufficiently easy. We found that it commenced three years since by the appearance of a small tumor in the right iliac region. And here we may remark, that it does not always first appear on the side of the affected ovary, for in this case, although the tumor first appeared on the right side (according to the patient's statement) still it was found after death to be connected with the left ovary. It continued to increase in size gradually, with little or no derangement of the general health; all the functions were properly performed. With regard to the catamenial function in this case, the advanced age of the patient (73) prevented us from noticing the state of it. Generally, however, we find that when the disease occurs in young persons this is not interfered with, the menses continuing to appear as regularly as before the commencement of the disease. Dr. Seymour, in a very valuable little work published by him on this subject, states, that when, and only when, both ovaries are involved are the menses absent. There is, however, at present, a case under the care of Dr. Thomson in which the patient is a young woman; both ovaries are affected, the tumors projecting out of the pelvis considerably, and yet the menstrual function is not interfered with. So that it is very evident that there are exceptions to this rule, if, indeed, it can be regarded as one. In some cases the growth of these tumors is so slow that they appear almost stationary, whilst in others they run a very rapid course. On admission, we found the abdomen very tense from the distension caused by the tumor; fluctuation was very evident, and the mass was perfectly moveable, and seemed to have no attachments to the parts inside. It was then perfectly clear that the disease present was encysted dropsy of the abdomen, and it is seldom that we find any difficulties in the way of determining the real nature of the disease. When ascites is present, it may not, perhaps, be so easy to give a positive opinion upon it. There are, however, some modes of distinguishing between the two affections. In ovarian dropsy, fluctuation is generally more apparent than in ascites, the intestines containing air being pushed behind the tumor, and the latter, containing the fluid, being consequently brought into contact with the abdominal parietes; for the same reason, in ascites we have always more or less tympanitic resonance of the abdomen, whilst in ovarian disease this is generally, almost wholly, if not wholly absent. In such a case, also, our diagnosis would be very much assisted by the history of the case. Cases have occurred in which enlarged liver, either from malignant or other disease, have been mistaken for ovarian dropsy. We now come to consider a very important question—What is the nature of the disease? It was asserted by the old writers that ovarian dropsy consisted in distension of the Graafian vesicles. This hypothesis is by no means a probable one; for it seems very doubtful if these bodies are capable of so great a degree of distension as to reach the enormous size of the tumor before us. And moreover we find that the structure of the two is materially different. Neither can we entertain the idea that the disease has any affinity to cancer: we frequently meet with cases of cancer of the ovary itself, but these seem to have no connexion whatever with ovarian disease. Dismissing this, then, from our consideration, the next question presenting itself is—What affinity has the disease in question to conception and the formative process to produce a fœtus? This appears to be a subject worth considering. Instances are on record in which hairs, teeth, &c. have been found in the interior of these cysts. The disease does not seem to be at all connected with impregnation, as it has been frequently known to occur, not only in young and virtuous women, but even before the age of puberty. Nevertheless, although we find it impossible to look upon the disease

as in any way connected with impregnation, Dr. Thomson is of opinion that it essentially consists in a peculiar formative process in some manner analogous to conception, and giving rise to the production of these large masses, which are, in fact, monsters, and, to a certain extent, resemble hydatids in their nature and the manner in which they are produced; for we often find that on opening the principal cyst there are distinct elevations, covered by the lining membrane, these being smaller cysts, which again contain others and smaller ones—and this was observed in the present instance. By this view we place the disease entirely out of the pale of the general system, and regard the tumor as a foreign body; we cannot suppose the cysts to be supplied with absorbents (the existence of these has been asserted, but has never been demonstrated), and we render it absolutely impossible that any good can result from the various modes of treatment that have been from time to time recommended, put in practice, and afterwards given up as of no avail. The disease seems to have little or no effect upon the patient's health, and scarcely any tendency to shorten life, until, by its bulk, and by its pressure on the intestinal viscera, it gives rise to unpleasant symptoms. Patients affected with the disease, and even after the tumor has arrived at a large size, have been known to live for thirty years, and to enjoy, not only the comforts, but also the luxuries of life. Dr. Mead relates the case of a patient of his own who was tapped 67 times in the course of five years, and thus lost 1,920 pints of fluid. Another case is related by Mr. Martineau, which occurred in his own practice, in which, in the course of 25 years, the patient lost by the same means the enormous quantity of 6,631 pints of fluid. In reference to cases of this kind, Dr. Seymour, in his little work before quoted, asks, "Now is it possible that the system can stand the loss of so great a quantity of fluid as this, when a discharge from a wound, or even the oozing out of blood in hæmorrhage, or a discharge from the intestinal exhalents, are sufficient to exhaust a patient to a fatal extent? To this question (acting on the opinion above delivered) our answer is, that it would be utterly impossible for the system to bear this loss, were the tumor, and consequently this drain from it, in any way connected with the general system, and Dr. Thomson thinks that this very fact of the body being able to sustain so great a loss of fluid from these cysts, goes a long way to prove the correctness of his opinion. With regard to the treatment of the disease, various remedies have been suggested and used without avail, as mercurials, iodine, diuretics, &c.—the latter, as well as purgatives, can only be of use when ascites is present, and then only insomuch as they relieve this symptom. Spontaneous cures have taken place in which, by the means of falls, &c., the cysts have been burst, their contents thrown into the cavity of the peritoneum, and then removed by absorption. In such cases, if the fluid be at all acrid in its nature, fatal peritonitis will pretty certainly result. These cases will not justify us in any endeavour to rupture the cysts. Cases are also on record in which adhesion has taken place between the tumor and the descending colon; ulceration has ensued; large quantities of serum and pus have been discharged per anum, and the patients have ultimately recovered. These cases are, however, exceedingly rare. With regard to the operation of tapping, the old physicians were much opposed to having recourse to it in this disease; the fluid certainly returns very quickly. The operation is, however, very serviceable when resorted to for the purpose of relieving the distension and unpleasant symptoms caused by it; and by its judicious employment life may be preserved for many years. In the present instance, although it was followed, as sometimes happens, by fatal peritonitis, still the great amount of distension present, and the unpleasantness consequent upon this, seemed to warrant its performance, and had it not been unfortunately followed by inflammation, the patient's life might have been prolonged for some years. Injections of the sac have been tried; these have been abandoned in consequence of their so frequently giving rise to peritoneal inflammation; and when this is not the case they seem to be productive of no good effects. Acting upon the opinion which he has formed, and which is given above, Dr. Thomson is of opinion that the best mode of treating the disease consists in refraining from putting into practice any of the means of cure which have been adverted to above, and which only tend to hasten the fatal termination of the disease by lowering the patient's state; they have all signally failed; and if our opinion as to the nature of the disease be correct, no other result could be expected from their adoption. If we are called in at an early period of the case, the growth of the tumor may generally be retarded by restricting the patient to the use of a mild, farinaceous, unstimulating diet, avoiding all sources of excitement, and by keeping the bowels gently open by the exhibition of mild aperients. It seems quite impossible that when the disease has once commenced it can be removed; all that we can hope for is to keep it stationary. The plan of treatment mentioned above tends more than any other to effect this, and in the practice of Dr. Thomson it has been attended with most satisfactory results.

## Correspondence.

### CERTIFICATES OF LUNACY.

Sir,—Some few months ago I read an article in your journal (to which I have been a subscriber some years) respecting the new "Act on Insanity." Before I saw that article, I, as well as many others, had simply signed my name, without stating any "*facts*" when signing certificates. A month since I was called upon to sign a certificate again, of the like kind. I remembered your having called our attention to this subject, and, in consultation with the surgeon, I mentioned your paper, and the necessity of a valid certificate. It was not easy to know what to state. I wrote, "general conduct, manner, appearance, &c.," as there was no one deed I could state that she had committed which would necessarily prove her insane. The patient's malady commenced in the puerperal state, *I have heard*, five or six years ago; and there was hereditary malady in the family. She continued better and worse in more than one private asylum; she was then brought home, continued to improve for some time, but gradually her attendant lost her command over her, and we thought a public establishment most likely to benefit her. She had done nothing very extraordinary, but she was *not sane*. I added to my signature, "conduct, manner, appearance, &c.;" and the surgeon, "occasional violence," and something else I do not now recollect. After what we considered a satisfactory certificate, we *both* had to add a something more in a letter; what *that* was that was accepted I do not know, as I gave a choice of four or five "*facts*;"—"*playing violently on the piano*, and being *angry* when the attendant shut it;" "*burning her mouth with hot pudding*, and laughing at it;" "*making a noise in church*," and one or two other vagaries of the like kind, that I should not like to have appended my signature to, though I mentioned them in a private letter. I founded my opinon, as I stated, on her *general* conduct and *appearance*; for she had the *look* of an insane person to a great degree, and this is no bad guide.

Having taken really some pains about the case, I was not well pleased to find my certificate and the surgeon's refused.

I took the *liberty* of writing to the Commissioners, stating my willingness to conform to the act, and requesting to know *how*, in *such a case*, a short and satisfactory statement should be worded. In answer to this application, I received the accompanying letter. I may have the melancholy duty of performing the same office again, and perchance with no better result than the former, and may run the risk of "*penalties*" for the want of my apprehension, though I have asked for information where I should have thought it might have been civilly granted. If it had been my intention to evade the law, I should hardly have given my time for the letter I wrote. If I am not "*well informed*," I at least sought *information*. In one thing I am safe: I am legally qualified, being an A.M. and M.D. of Oxford. If you, sir, could give us a hint, or do us any good by a word or two, it would be a charity.—I am, sir,

Your constant and old subscriber,

"Fuscus*."

"Office of Commissioners in Lunacy,
19, New Street, Spring Gardens,
Feb. 27, 1846.

"Sir,—In reply to your letter of the 23d instant, which has been read and considered by a Board of Commissioners in Lunacy, I am directed to state, that the Commissioners apprehend that there can be no reasonable difficulty on the part of any well-informed medical practitioner, who is really disposed to carry out the object of the legislature, in stating succinctly, yet clearly, and in a few words, the leading circumstances, or facts, upon which he grounds his opinion that the party whom he examines is insane and proper to be confined. I am directed further to remind you, that a medical practitioner who does not choose to take the trouble necessary to enable him to make such statement in the proper form, neglects his duty to the public, as well as to the patient, and may incur penalties in consequence of his neglect.—I am, sir,

"Your obedient servant,

(Signed) "R. W. S. Lutwidge,
"Secretary."

### MARKS PRODUCED ON THE NECK OF A CHILD BY THE UMBILICAL CORD.

Sir,—In forwarding the subjoined case, I do so not altogether from its absolute novelty, (it having been previously noticed by medical jurists, although it appears to be rather a disputed point amongst them), but from its own intrinsic importance in a medico-legal view, as likewise deeming it, from my own experience, of rare occurrence. Having had some considerable practice in midwifery, during which the circumstance of the funis having been more or less coiled round the child's neck has not unfrequently happened, but the presence of such marks as I am about to describe, as the effects of the pressure of the funis I never before saw.

Case.—On Wednesday, the 26th ult. I was summoned to attend Mrs. H. in labour

* Our correspondent has forwarded his name and address.

with her first child, of which after a lingering labour, chiefly dependent upon the large size of the head, I delivered her, the child being still-born. The funis was coiled *three times round the neck*, passing under the right axilla, and upon removing it *three parallel discoloured depressions* extending completely round the neck, corresponding with the previous position of the cord, were distinctly evident both to the sight and touch, thus presenting an appearance as though the child had been strangled.

This I pointed out to the attendants, observing of what serious importance such an appearance might have been had the child been born under circumstances where suspicion could possibly have arisen.

Should you think the case worthy of insertion in your excellent GAZETTE it is at your service.—I have the honour to subscribe myself, sir,

Yours, with respect,

J. J. E. FOSTER, Surgeon, &c.

Godshill, Isle of Wight, March 1846.

## Medical Intelligence.

### BICHAT.

AT the request of the Parisian Medical Congress, Louis Philippe has ordered that a portrait of Bichat shall be placed in the Historical Gallery of Versailles; and he has conferred a pension on the aged brother of the celebrated anatomist and surgeon.

### QUEEN'S COLLEGE, BIRMINGHAM.

IN accordance with the recommendations contained in the report of a committee appointed to consider the practicability of annexing and adapting a course of preparatory instruction to the educational economy of this college, the following plans were submitted to the Council, on Tuesday last, March 3d, and, on the motion of the venerable and respected Dr. Johnstone, unanimously carried:—

The Council of the Queen's College, Birmingham, deeply impressed with the importance of improving the preliminary education of students in medicine and surgery, propose to establish, without delay, a junior department of their College, in order to afford to young persons intended for the professions of medicine and surgery, the advantage of receiving, within the walls of the College, early instruction in Latin, Greek, and Mathematics (with the modern languages, and the sciences), from tutors of University education, carefully selected for their abilities and acquirements.

The students to be lodged and boarded with their tutors; who will have houses provided for them near the College, and who will be responsible each for the conduct of such young persons as are entrusted to him.

No particular age to be fixed for the admission; provided they have gone through the elementary training of a classical school, and can produce testimonials of their good conduct at such school.

The students in the junior department will be promoted according to their diligence and acquirements, but it is very desirable that they should be ready for matriculation, and for receiving indentures of apprenticeship, where required, by the time they have reached the age of sixteen, in order that they may offer themselves as candidates for the degrees of the University of London, the diploma of the Royal College of Surgeons of England, and the license of the Society of Apothecaries, by the time they have attained the age of twenty-one, after which they may commence practice.

*** We regret that our space does not allow us to publish the whole of the details which have been forwarded.

### MEDICAL SOCIETY OF LONDON.

ACCORDING to the announcement in our last number, this Society held its anniversary meeting on Monday last. The Fothergillian Gold medal was awarded to Dr. R. M. Glover, of Newcastle-upon-Tyne, and the Silver medal to George Pilcher, Esq. The following gentlemen were appointed office-bearers for the ensuing year.

*President.* — Mr. Dendy. *Vice-Presidents.*—Dr. Golding Bird; Mr. Headland; Dr. Theophilus Thompson; Mr. Bishop. *Treasurer.* — Mr. Clifton. *Librarian.*—Mr. Dendy. *Secretaries in Ordinary.*—Mr. Harrison; Mr. Clarke. *Secretary for Foreign Correspondence.*—Dr. Davidson. *Committee.*—Dr. Bennett; Mr. Diamond; Mr. Hutchinson; Mr. Linnecar; Mr. Middleton; Dr. Rees; Mr. Robarts; Dr. Roberts; Mr. Stedman; Dr. Waller; Mr. Crisp; Dr. Alison; Dr. Hall; Mr. Pilcher; Mr. Hilton; Mr. Taunton; Dr. Stewart; Dr. Clutterbuck; Mr. Eales; Mr. Saunders.

Dr. Golding Bird will deliver the Oration for the year 1847.

### WESTMINSTER MEDICAL SOCIETY.

THE Society held its anniversary meeting on Saturday last. The following is the list of office-bearers.

*President.*—Mr. Hancock. *Vice-president.*—Dr. Frederick Bird. *Committee.*—Dr. W. Merriman; Dr. Roche; Dr. Snow; Mr. Hird; Mr. Harding; Mr. Clarke; Mr. Brooke; Mr. Curtis; Mr. B. Norman; Mr. P. Marshall.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *March* 5.—William Paine Fisher, Dartford, Kent.—James Fenn Clark.—Samuel Scholfield, Todmorden.—Henry Jacobs, London.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, Feb.* 28.

| BIRTHS. | | DEATHS. | | *Aver. of 5 yrs.* | |
|---|---|---|---|---|---|
| Males.... | 725 | Males.... | 472 | Males.... | 491 |
| Females . | 695 | Females . | 444 | Females . | 472 |
| | 1420 | | 916 | | 963 |

CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Winters; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES | 916 | 1080 | 967 |
| SPECIFIED CAUSES | 913 | 1073 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* | 159 | 183 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat | 89 | 115 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses | 164 | 169 | 157 |
| 4. Lungs, and other Organs of Respiration | 287 | 363 | 294 |
| 5. Heart and Blood-vessels | 34 | 30 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion | 70 | 69 | 72 |
| 7. Diseases of the Kidneys, &c. | 11 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. | 17 | 12 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c. | 7 | 7 | 6 |
| 10. Skin, Cellular Tissue, &c. | 0 | 2 | 2 |
| 11. Old Age | 54 | 90 | 67 |
| 12. Violence, Privation, Cold, and Intemperance | 21 | 27 | 26 |

The following is a selection of th number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox | 4 | Convulsions | 34 |
| Measles | 19 | | |
| Scarlatina | 16 | Bronchitis | 71 |
| Hooping-cough | 52 | Pneumonia | 58 |
| Typhus | 27 | Phthisis | 109 |
| | | Dis. of Lungs, &c. | 11 |
| Dropsy | 11 | Teething | 7 |
| Sudden deaths | 3 | Dis. Stomach, &c. | 7 |
| | | Dis. of Liver, &c. | 10 |
| Hydrocephalus | 43 | | |
| Apoplexy | 28 | Childbirth | 12 |
| Paralysis | 24 | Dis. of Uterus, &c. | 1 |

REMARKS.—The total number of deaths was 164 below the winter, and 52 below the annual average. The most fatal disease now prevailing in the metropolis is Hooping-cough, the deaths from which are much above the averages of the season and years. There were only *four* deaths from Small-pox during the week. In the South districts, the mortality was above the annual average. In all the others, it was below both averages.

## METEOROLOGICAL SUMMARY.

Mean Height of Barometer .....29·58
„ „ Thermometer[a] ..... 51·7
Self-registering do.[b] ..... max. 78·5 min. 35·
„ in the Thames water. — 51·5 — 43·5

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·34: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was 13·7° above that of the mean temperature of the month (38°). The extreme hebdomadal range in the self-registering theremometer, was 43·5°.

## NOTICES TO CORRESPONDENTS.

We have been compelled to postpone the letters of "A Practitioner" and Mr. W. H. Olley until our next.

Mr. Butler Lane's paper on Oxide of Silver has been received.

We had intended to publish this week the correspondence forwarded to us by Professor S. Cooper, but the space occupied by Proceedings of Societies has compelled us to postpone this, as well as Mr. Rose's contribution on Nævi, until the following number.

*Received.*—Dr. Brown.—Mr. Sands Cox.—Mr Foster.—Mr. James Kirk, Glasgow.

HULL and SCULCOATES DISPENSARY.—A Vacancy having occurred in the office of Dispenser to the Hull and Sculcoates Dispensary, the Committee hereby give notice that they will receive applications from Candidates addressed to W. Laverack Esq., Honorary Secretary, Hull, until Saturday, March 28th. The subscribers will proceed to the Election on Thursday, April 2d. Applicants must be Licentiates of the London Apothecaries' Company, and if they possess the Diploma of the Royal College of Surgeons of England it will be deemed an additional qualification. Unexceptionable certificates of moral conduct will be indispensable. The Dispenser will be required to reside upon the premises; salary £80 per annum; coals and candles are provided by the Institution.

An Assistant Dispenser (who need not be a legally qualified man) will be appointed by the Committee at a Salary of £30 per annum.

Hull, March 6, 1846.

ROYAL COLLEGE of SURGEONS of ENGLAND.—Notice is hereby given that Examinations for the Fellowship will take place at this College on Tuesday the 7th and Thursday the 9th of April next.

The By-Laws and Ordinances relative to the Fellowship, with other particulars, may be obtained on application to the Secretary.

The requisite Certificates and Testimonials must be forwarded to the College at least ten days before the period appointed for the Examinations. (By order),

EDMUND BELFOUR, Sec.

March 11, 1846.

Published this *da*y, 8vo. price 1s. stitched,

THE PHYSIOLOGY of the NERVES of the UTERUS and its APPENDAGES. By JOSEPH SWAN, Esq., Author of "Illustrations of the Nerves of the Human Body," "A Demonstration of the Nerves of the Human Body," &c.

London: Longman, Brown, Green, & Longmans.

MATICO.—NEW SUPPLY just received from Peru.—The Members of the Medical and Surgical Profession are respectfully informed that the new Styptic—MATICO—may be procured in any quantity, and every form, at Thomas Keating's, Chemist, 79, St. Paul's Church Yard. A Sample of the Plant, together with a copy of the third Edition of "Remarks on the Efficacy of Matico as a Styptic and Astringent; with Cases, Modes of Exhibition, &c. &c. by Thomas Jeffreys, M.D. of Liverpool," may be obtained (postage free, in any part of the Kingdom, by sending a prepaid order, enclosing eighteen penny postage stamps, addressed to "Mr. Keating, 79, St) Paul's Church Yard, London."

*** See Medical Gazette of September 26, 1845, page 962.

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| „ 40... | 3 | 1 | 2 | „ 70... | 11 | 10 | 6 |

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**Friday, March 13, 1846.**

## Lectures.

### LECTURES ON DISEASES OF THE KNEE-JOINT.

By Sir B. C. Brodie, Bart.

Lecture II.

SCROFULOUS DISEASES OF THE KNEE-JOINT—*continued.*

*Delivered in the Theatre of St. George's Hospital, January* 21, 1846.

Having described in the last lecture the symptoms of scrofulous disease of the knee-joint, I have now to speak of its treatment.

In former times this disease was confounded with a number of others, under the general appellation of *white swelling*, and they were all treated very much in the same way. Blisters, setons, issues, and other kinds of counter-irritants, were had recourse to. Such was the common practice when I was a student in this hospital, and for a long time afterwards. It was a most unskilful proceedure, and in a large proportion of the cases, if not in the majority, the loss of the limb was the consequence. Other modes of treatment, however, were occasionally had recourse to. One person recommended one thing, another person recommended another. Some of the remedies employed were innocent enough (poultices of sea-weed, for example), while others, such as friction and champooing, were as mischievous as possible.

I need not occupy your time by describing other methods of treatment which were formerly proposed, or which are, to a certain extent, now in use. It will be better that I should at once explain the results of my own experience on the subject. *First*, let me say a few words as to what ought not to be done; and a very important consideration this is on many occasions. Blood ought not to be taken away from the joint, either by leeches or by cupping, and far less should it be taken from the general system. The disease depends on a weak state of the constitution, and the abstraction of blood will only tend to its aggravation. Neither blisters, setons, issues, tartar emetic ointment, nor any other kind of counter-irritant, ought to be employed. Such remedies torment the patient, they make him ill from the general disturbance of the system which they produce, they lower him by the continued discharge of matter, and do no good whatever to the malady. I express this opinion in the strongest and most confident manner, having seen this kind of treatment extensively practised formerly, and being able to compare the results with those arising from the treatment which I have since employed.

There is one great principle to be attended to in the treatment of all diseases of joints —namely. that the joint should be kept in a state of perfect repose. If there were an inflammation or a sore in the leg, and it were rubbed all day long, would that inflammation ever subside, or that sore ever heal? If a diseased joint be subjected to friction, as it must be when it is kept in motion, is it likely that a cure can be effected? There is no mode of surgical practice more important than this, that a diseased joint should be kept in a state of perfect immobility. In the early stage of the disease that is the only local treatment that is required, and, indeed, it is the chief thing to be attended to even in its most advanced stages.

There are different methods of keeping the knee in a state of immobility. The simplest method is that of employing the leathern splints which I formerly mentioned, one on each side of the joint. It has the advantage of giving very complete support; at the same time that the splints are easy to be worn, because they exactly fit the parts to which they are applied, and that there is the further advantage of the patient being able to take them off and put them on for himself. An apparatus that is not easily removed is liable to great objection. There may be an attack of inflammation, causing a sudden increase of the swelling, and requiring the splints and bandages to be removed and readjusted; and if these be of such a kind that the patient cannot readily do what is wanted himself, he may suffer torture until it is done for him by his surgeon. I need not occupy your time by explaining that a continuance of pressure on the joint when it is inflamed and trying to swell, cannot be otherwise than productive of great mischief.

But while the joint is kept in a state of perfect repose, attention must be paid to the general health; for the disease having its origin in a morbid condition of the constitution, it is needless to attempt to cure it by mere local treatment. It must be plain to you that no general rule can be laid down on this subject. It may be that the evacuations are of a white colour, the bowels confined, the tongue furred, and it may be requisite in the first instance to have recourse to a course of blue pill or grey powder, and occasional purgatives. But as soon as the digestive organs are brought into a proper state, the patient will generally be benefited by the exhibition of what are called *tonics*, but especially of some preparations of iron. To children I give the *vinum ferri* of the old Pharmacopœia,

proportioning the dose to the age of the patient. This generally agrees with him very well; and if to this be added the occasional exhibition of purgatives, other medical treatment is seldom required. The patient may take this or some other preparation of iron for three weeks, omit it for ten days, then resume it for three weeks, and so on for an indefinite period: by which I mean to express as long a period as two or three, or even four or five years; our object being not so much to cure a particular disease as to mend a weak constitution. Diseases may often be cured in a short space of time, but a weak constitution cannot be rendered a strong one until after the lapse of some years. The patient generally requires to be watched whilst he is using these remedies. They may overstimulate him and make him feverish, and then the dose requires to be diminished, or the medicine must be omitted for a time, to be resumed afterwards. I have mentioned the *vinum ferri*, but other preparations — for example, the *tinctura ferri muriatis*—may be exhibited, or the syrup of iodine of iron. I sometimes give the latter and the vinum ferri alternately. It appears to me that in these cases large doses of iron are not required; small doses introduced into the system, off and on, for a great length of time, are what you are to rely upon. Five patients out of six will be benefited by taking iron. Every now and then, however, a patient is met with, with whom no form of iron agrees, and recourse may then be had to quinine, bark, or the alkaline solution of sarsaparilla. The latter combination agrees very well with delicate children, and may often be given with advantage in alternation with preparations of iron.

But the object being to improve the constitution, much will depend on other things besides the exhibition of medicine. A scrofulous child will not prosper in the air of a crowded city, though he may do very well in the country. In general, patients are benefited by a residence at the sea-side—that is, by having the opportunity of breathing the sea-air during a considerable portion of the year. Sea-bathing may be serviceable under certain circumstances, but I have no doubt that the advantage of it is very much over-rated. It does good, because the patient must go to the sea-side to obtain it, but I question whether sea-water baths are in themselves better than any other baths. A long while ago, a person, being encouraged to do so by the medical practitioners of that day, established some sea-water baths near the Strand. A vessel went to the Nore three times in a week, and was so constructed that it filled itself with a supply of sea-water. There was a large plunging-bath, and some excellent warm sea-baths, quite as good as can be procured at Dover or Brighton. At first they were popular; patients went there either of their own accord or because they were sent by their medical advisers; but every year there was a little falling off, and in the course of a few years the proprietor, finding that he had scarcely any customers, was compelled to give them up. The fact was, the public found out by degrees that sea-baths without sea-air were of little avail. The same observation may be made respecting other methods of using sea-water. A child goes to the sea-side, towels wet with sea-water are put on, or a great quantity of sea-weed is tied round the knee; and this is supposed to do good, but it is a poor substitute for the leathern splint. The fact is, the child's health is improved because he is breathing the sea-air, and the good thus obtained is attributed to other causes. It is also well for the patient to live on a plain but nourishing diet, and to be as much as possible in the fresh air; care, however, being taken that he should not be exposed to cold; and with this view, whenever he leaves the house, or lies at an open window, he should be well wrapped up, and defended from changes of temperature by warm clothing.

This is the whole of the treatment that is required in ordinary cases, and it is for the most part eminently successful. Indeed, when you are called to a young person with scrofulous disease of the knee in good time, before matter is formed, and in whom there is no visceral affection, it will scarcely ever happen the case that does not end well.

But let it be observed, that no good can be obtained without perseverance. It may be necessary for the patient to wear the splints sometimes for three months, sometimes for six months, and sometimes even for a year; while the constitutional treatment may be required for a much longer period.

But perhaps the joint is contracted, the leg has been kept bent upon the thigh, and at the end of a certain time it becomes a question whether it can be made straight. You may effect this object by applying the instrument with a screw described in a former lecture. Violent extension on this, as on other occasions, is to be avoided. By little and little, and by very slowly turning the screw, the leg is to be brought into the straight position. Then no harm will happen, and not only the usefulness of the limb will be saved, but actually the mobility of the joint in many instances.

In the more advanced stage of the disease, when abscess is formed, the cure is much more doubtful, and at any rate is much more tedious; but the principle of treatment is exactly the same. If there be abscess, there is still greater reason for keeping

the joint in a state of repose than if there be not. When the abscess presents itself externally, and the skin over it is tender, the splint which presses on that part must be left off, but the other may be allowed to remain. Sometimes, however, the abscess is so situated that both splints must be left off for a time, and the joint fomented and poulticed, as in other cases of suppuration. As soon as the skin becomes thin, open the abscess: you will save time by doing so. When the abscess has been open three or four days, reapply the splints, placing some simple dressing over the orifice of the abscess. A little change is now required in the splints, inasmuch as they must be lined with oil-silk, in order to prevent them from being spoiled by the purulent discharge.

When abscess has formed, you must generally be well satisfied to save the limb, without expecting to save the mobility of the joint. I do not say that the latter object will never be attained, but in nine cases out of ten, after the formation of abscess, there will be an anchylosed joint. This is not a great inconvenience provided the limb be in a proper position, but it is a very great one indeed if it be anchylosed at a right angle. To prevent this, notwithstanding the abscess, the machine with the screw may be had recourse to, so as to straighten the leg. Sometimes, in the case of abscess, when it is closing, a small piece of bone exfoliates, and it may be that several pieces may exfoliate afterwards. When exfoliation occurs, there is always anchylosis; the process of cure is very tedious, and, in fact, many years often elapse before it is so complete that no more separation of dead bone takes place. All that I have just now stated shews how important it is that the case should come under judicious treatment before abscess is formed. It makes, indeed, all the difference as to the period of cure. If matter be not yet formed, it may almost to a certainty be prevented, and a few months may be sufficient; but if there be a single drop of matter, it becomes the nucleus of a large abscess; and then, not only many months, but some years may elapse before the cure is complete.

I have said, that under proper treatment, especially if consulted in the early stage of the disease, you will seldom fail in preserving the limb; still you will not do so in all cases: and sometimes, from the bad state of the constitution, and in spite of the best treatment, the disease will go on. If a child be brought into the hospital in whom the disease has been neglected for years, so that the joint is entirely destroyed, nothing better can be done than to amputate the limb: but is the operation to be performed in all these cases indiscriminately? Indeed it often requires a great deal of judgment as to whether you should amputate or not. I am always unwilling to resort to amputation, because I think a limb so valuable that it is worth the patient's while to run some risk as to life, if there be a chance of preserving it. But there are other reasons for hesitating about amputation. I have frequently known cases in which, immediately after a scrofulous knee has been amputated, symptoms of disease in the chest have become developed, and the patient has died of tubercles and vomicæ in the lungs; and I have known other cases in which, under the same circumstances, he has sunk under disease of the mesenteric glands, or hydrocephalus. Before a limb is condemned, careful inquiry should be made as to the state of the general health, and pains taken to ascertain that there is no disease going on in other organs. If one knee be amputated, and disease has begun in the other knee, or in the lungs or mesentery, the probability is that this other disease will go on with increased rapidity. But, on the other hand, where disease has occasioned great mischief in the knee, the limb ought to be amputated, rather than that the patient's constitution should be worn out by it; and it should be always borne in mind, that although disease in a joint does not directly destroy life, it may do so indirectly, by producing such a state of exhaustion as is favourable to the development of disease in the lungs and other viscera. If, by examination with a probe, it be ascertained that there is a piece of dead bone connected with the interior of the joint, and so situated that it cannot exfoliate, the limb may be given up at once; there being no chance of a cure, and no remedy but amputation.

I have stated that where an abscess is formed, if the patient recovers, it will be generally with an anchylosed limb. Bony anchylossis will take years for its completion. A knowledge of this fact is of importance, as it shews that if the limb be bent, there will be plenty of time to get it into its proper place. The appearance presented by the section of a joint in which bony anchylosis has taken place, is well seen in the drawing which I now shew you.

The disease of which I have now spoken is one of the most common in surgery, especially in children; and there is no disease the result of which is more affected by surgical treatment than this. Under wrong treatment it will generally go on from bad to worse, until the joint is destroyed and the limb is lost; whereas, under good treatment, in nine cases out of ten the patient will recover. It is therefore a subject especially worthy your attention as practical surgeons.

*Primary ulceration of cartilages of the knee.*

In the last and preceding lectures I have alluded to the ulceration of cartilages. In the cases which I have hitherto mentioned they become ulcerated as a consequence of disease in other textures; but sometimes this process takes place apparently from disease originating either in the cartilage itself or in the surface of the bone to which it is connected. It has been said that cartilage does not possess blood-vessels, and therefore that it cannot ulcerate from an action originating in its own structure, but only from the influence exercised upon it by the vessels of the parts which are in contact with it. But in growing persons it is evident that cartilages are sufficiently endowed with vascularity. On making a section of the articular cartilages of a child, large vessels are perceived in it injected with blood. Nor can it be doubted that in adults the cartilage possesses vessels, or some structure that answers the same purpose. Are not cartilages constantly exposed to friction; and if they have not the power of self-repair, what is to hinder their being worn away in consequence? A man walks or labours all day long, rubbing the cartilages of all the joints against each other; nevertheless they remain uninjured through the whole of a long life. Then they are subject to a particular alteration of structure, indicated by a fibrous degeneration, of which this preparation affords a good specimen. Such an organic change may occur at any period of life, but it is of very frequent occurrence in old persons; and this cannot be explained except we suppose that they possess either blood-vessels, or something equivalent to them. I mentioned in the last lecture, that in cases of scrofulous disease of the joint I have seen blood-vessels injected with red blood extending from the diseased bone into the cartilage connected with it, and ramifying on its substance. The same appearances have been observed by Mr. Mayo and Mr. Liston. Here is a preparation taken from a boy who had met with a compound fracture of the thigh. The femur was separated at the epiphysis, and some time afterwards it was necessary to amputate the limb. There was no matter in the joint, no fluid, and no inflammation of the synovial membrane; the surface of the cartilage in contact with the bone was entire, but towards the articular cavity it had in many places disappeared, as if a portion of it had been removed by a chisel. There are several preparations in the museum, shewing the same kind of absorption of the articular cartilages; and if you will take the pains to study them, you will be satisfied that what I have now stated is correct.

In adducing these facts, however, I do not mean to say that in what I call primary ulceration of the articular cartilages, the ulceration always begins on the surface which is towards the articular cavity. There is reason to believe that, in some instances, the morbid action originates in the surface of the bone with which the cartilage is connected, extending from thence to the cartilage itself; and in practice I do not pretend to distinguish these two orders of cases from each other. The disease may, for the most part, be traced to rheumatic inflammation, having this peculiarity, that it is confined, in the first instance, to the harder textures. There are, perhaps, wandering pains, first in one shoulder, then in the other, then becoming, as it were, concentrated in the knee; the cartilages of which soon afterwards begin to ulcerate.

On examining the joint in an early stage of the disease, the cartilage is found to be absorbed at one point, and the surface of the bone exposed and carious. Probably there is no effusion of any kind in the joint, neither serum nor pus; but the exposed surface of bone is more vascular than under ordinary circumstances. As the disease advances, the ulceration of the cartilage becomes more extensive, and when it has attained a certain point, pus is formed in the joint. As in some cases there is suppuration without ulceration, so in these there is ulceration without suppuration. As I have observed in a former lecture, the two processes are generally combined, but there is no necessary connection between them. The cartilages at last become destroyed throughout the knee—on the femur, the patella, and the tibia. Sometimes, when abscess forms, it is limited by adhesion to one part of the joint, and then perhaps suppuration takes place in another part of it. In other cases the abscess is not so limited; the whole joint is distended with matter, so as to form one large abscess; and in this stage of the disease the bones in the neighbourhood of the joint become inflamed and dark coloured; the matter lodging in the cancelli becomes putrid, probably a portion of the bone loses its vitality and exfoliates into the articular cavity, while the abscess finds its way out in various directions, making numerous sinuses under the fascia and among the tendons, before it presents itself externally.

While these changes take place in the affected joint, they are indicated by the following symptoms. Generally, as I have already mentioned, there are rheumatic pains in other joints in the first instance; by and by the pains are, as its were, concentrated in the knee. The pain is very severe, and yet the joint is scarcely at all swollen, or rather I should say that there is no swelling in the first instance. After a time

there is a slight general enlargement of the joint, the consequence of a deposit of lymph or serum outside of the synovial membrane. The swelling assumes the shape of the articulating ends of bones, and appears greater than it really is; because the muscles of the thigh are wasted above, as those of the leg are below. The pain is aggravated by motion, and there is a painful starting of the limb at night. The pain is especially aggravated by pressure on the patella, and whenever, in this or any other case of disease of the knee, this symptom exists, you may suspect that the cartilages of the joint are beginning to ulcerate. The disease may go on not only for weeks but for many months, the patient's health suffering all the time, from disturbed rest at night and constant pain in the day, and yet without suppuration taking place. By and by matter forms, and there is then an aggravation of all the symptoms. The matter, as in all other cases of abscess connected with the knee-joint, burrows in various directions among the muscles and tendons, making numerous and circuitous sinuses;—but it would be needless for me to repeat what I said on the subject of abscesses of the knee in the two preceding lectures.

With regard to the treatment of this disease, it is important, in the first place, that the joint should be kept in a state of the most perfect repose; and splints are required here as in other cases of chronic affection of this joint. Although I believe that issues, setons, blisters, and counter-irritants, actually do harm rather than good in some other cases of diseased joints, yet I believe them to be beneficial here. A caustic issue inserted on each side the patella will very often stop the pain and the starting of the limb at night, when other means have failed. Nevertheless issues are not always required, and, in fact, in the majority of cases they may be dispensed with. What, then, is the chief remedy to be employed? That which is used for chronic rheumatic inflammation elsewhere. Mercury given as for iritis, or chronic inflammation of the testicle, is here productive of the greatest benefit. Two grains of calomel and one-third of a grain of opium may be exhibited three times daily till the gums are affected. The influence of this agent in stopping rheumatic ulceration of the cartilage is remarkable In fact it very seldom fails, if given before suppuration is established.

But some patients cannot take mercury; either it disagrees with them, or for some other reason you do not like to give it, and then sarsaparilla or the iodide of potassium may be substituted with great advantage. Mercury, however, is on the whole the most efficient of the three remedies, and next to that, sarsaparilla. In many cases the best mode of proceeding is to exhibit mercury in the first instance, until the disease is arrested, and then follow it up by a course of some good preparation of sarsaparilla. The mercury should be exhibited till the gums are somewhat sore. If it disagrees in one way, try it in another. Mercurial ointment may be rubbed into the thigh in the usual manner, when the patient is unable to take it internally.

In the great majority of cases, as I have already stated, no other treatment is required than splints, to keep the joint quiet, and the putting the system under the influence of mercury first, and of sarsaparilla afterwards; and it is only if these remedies prove to be not sufficient that recourse need be had to caustic issues. I formerly used to make them in the first instance, and undoubtedly with benefit; but I do not recommend them in the first instance now, because I find that much more dependence can be placed on other treatment, and that it is well to dispense with a troublesome and painful mode of treatment if you can. Getting rid of their use in cases of inflammation of the synovial membrane, and where there is scrofulous disease of the joint, and employing them only now and then in this particular disease, you see how seldom it is necessary to have recourse to them.

If abscess be formed, it will require to be treated as in cases of scrofulous disease. Make a free opening, do not squeeze or compress the part, but let the contents of the abscess flow spontaneously. I have explained to you that the scrofulous disease of the joint occurs usually in children. This affection rarely occurs except in the adult. It is owing to this that when matter once forms the limb will seldom be preserved; there not being the same powers of repair in the adult as in a child.

If matter be not already formed, the limb may, I believe, always be preserved; and, in the majority of cases, the mobility of the joint also. Of course, where the cartilage is extensively destroyed, this last good result must not be expected; and the patient must be well satisfied if he recovers with anchylosis. In severe cases of the disease, the progress of it towards anchylosis is sometimes very rapid. In one case, in which the symptoms were of a more than usually urgent character, the patient recovered under the mercurial treatment; but when, at the end of about three weeks, the symptoms had subsided, the knee was found to be completely fixed, and the mobility of it was never restored.

# RESEARCHES ON STRICTURE OF THE URETHRA.

By L. Auguste Mercier, M.D.

[*Translated for the* London Medical Gazette.]

[Continued from p. 321.]

## *Of Organic or Permanent stricture.*

We say there is organic stricture, when the parietes of the urethra have undergone at one or more points permanent diminution of calibre, from actual change of texture. In my opinion, these are the only cases which deserve the name; and structural change, destroying more or less the elasticity of the tissues, is the essential character of stricture. Cancerous and scrofulous affections sometimes, but very rarely, produce the disease; and as they are but accidental complications of a malady in itself of the highest importance, we have little to do with them. Some strictures following the closure of a wound of the parietes of the urethra have been regarded as the effects of a cicatrix and of the contraction of a hypothetical tissue of new formation, called by Delpech "tissu modulaire." Almost all the remainder are attributed to protracted inflammation of the canal; but in what way this produces such a result, is a question on which opinions have differed much.

Till towards the end of the seventeenth century, nearly all cases of retention of urine were ascribed to "caruncles," a kind of excrescences, or vegetations, supposed to grow from the internal surface of the urethra, and more or less completely obliterating its canal. It was thought that on these caruncles ulcerating (either from inflammation or the passage of too acrid urine, or of gravel, or even semen deteriorated by protracted stay in its reservoirs *), the denuded surfaces became covered with morbid granulations, which, if the cause continued in operation, might increase indefinitely. Probably, as I have elsewhere † stated, this opinion was founded on observation of tumors of the prostate: vegetations at the neck of the bladder had, no doubt, been noticed; and as surgeons were ignorant of their nature and origin, they admitted the possibility of their development equally in the urethra; as Heister subsequently argued—"If caruncles can grow behind the neck of the bladder, I see no reason why similar excrescences should not, either within the neck or in the urethra itself *." It is not my wish to assert that excrescences cannot form in the urethra; but they are so rare, that those who talk so much about, evidently can never have looked for, them. Desault and many others never met with them; Gensel and Morgagni † each witnessed an instance; more recent authors have likewise observed some; and I myself have published a very remarkable example ‡. It was impossible but that, from this rarity, some voices should, from time to time, be raised against so prevalent an error; and, in fact, C. Brunner §, Saviard ‖, Dionis ¶, and F. Clot **, protested against it; yet, as the idea of caruncles had always been profitably circulated, we again find Daran †† and André ‡‡, the venders of "suppurative bougies," about the middle of last century, publishing several volumes on these pretended carnosities. The latter, in particular, attacked Dibon, who could not convince himself of their existence, "in spite of his examinations post-mortem:" yet André may, perhaps, have merely been in error, for at page 216 of his "Dissertation," we find this remarkable passage:—"I have observed, that all the carnosities situate between the entrance of the canal and the verumontanum are *commonly of very solid substance*, and yet are more readily cured than those between the latter point and the bladder." We may, perhaps, in this sentence perceive the germ of a distinction between prostatic tumors and strictures of the urethra.

The first view of the latter, taken by their discoverers, was, that they were owing to cicatrization of ulcers; an opinion the more natural, when the discharge of blenorrhagia was looked upon as pus flowing from ulcers of the canal. But Morgagni §§ and J. Hunter ‖‖ shewed these ulcers to be very rare; whence it was fair to conclude, that if in truth they sometimes produce stricture, it was no less true that, in the majority of instances, strictures are formed in a different manner; their origin has therefore been assigned to various causes. Some have believed them to arise from thickening of the lining membrane of the urethra, from varicose development of its vessels ¶¶ or softening of its tissue ***; a greater number have attributed them to congestion of the

* A. Fern. A. Laenna.
† Rech. sur les Mad. Urin. des Homm. Agés. p. 119.

* Inst. Chir. t. ii. p. 835.
† Epist. xlii. art. 38.
‡ Op. cit. p. 121.
§ Eph. Nat. Cur. Obs. 97.
‖ Obs. Chir. 1702.
¶ Oper. der Chir. 1716.
** Traité de l'Oper. de la Taille, 1727.
†† Obs. Chir. sur les Mal. de l'Urethre, 1745.
‡‡ Diss. sur les Mal. de l'Urethre, 1751.
§§ Ep. xliv.
‖‖ Œuvres, t. ii. de la trad. Fr. p. 191.
¶¶ Portal. Anat. Med.
*** B. Bell, Mal. Ven.

submucous cellular structure; others, again, to a gelatino-albuminous deposit in the different tissues of the urethra, and subsequent induration; and M. Lallemand admits a deposit of of the same substance throughout, even to the external surface of the canal*. These two opinions are likewise held in a work published in 1835, in the name of Sir A. Cooper; the author merely terming the effusion "adhesive matter†." Ducamp allows hypertrophy of the substance of the urethra, produced by inflammation and passing to the state of induration ‡. M. Vidal states that inflammation produces such changes of nutrition that hypertrophy or atrophy of the urethra may equally ensue, and thus either way the same effect take place §; and Laennec ‖ and Ducamp admit strictures produced by false membrane on the mucous surface.

Sir E. Home and many other English surgeons, again, deny the structural change, and believe that strictures are caused by contraction, in the first instance spasmodic, and eventually permanent, of the muscular fibres they suppose exist beneath the mucous membrane; and Mr. Jameson asserts that increased activity of the transverse fibres of the accelerator urinæ, and of those of the levator ani, in contact with the urethra, is the cause of stricture; even going so far as to propose division of these muscular fibres for the cure¶. Similar ideas have been lately put forth by M. Dufresse**. It were really superfluous to controvert many of these hypotheses, but I will pass briefly in review those meriting most attention.

The veins of the urethra have probably never, in any case, so hermetically closed the canal as totally to prevent the passage of the urine; in fact, the efforts of the bladder and abdominal muscles cannot be supposed inadequate to overcome a resistance created by distended blood-vessels, or at least to displace a portion of their contents; and it is equally difficult to conceive the canal so congested as not to allow the smallest thread of urine to pass. The opposite opinion has arisen from the fact, that not uncommonly, very enlarged blood-vessels are actually met with in the urethræ of persons subject during life to retention of urine, and in whom the generality of surgeons would not remark any other cause of dysuria. But are we positively to conclude, because no other obstacle was noticed, that none existed? How often, for instance, have we met with valvular folds at the neck of the bladder, without observing them? Now these valvular folds are nearly always caused by chronic inflammation of the urethra, and accompanied with varicose vessels*; and I am persuaded that the larger portion of the cases of retention attributed to a development of the latter kind, were due to a spasmodic or permanent valvular fold at the neck of the bladder. This state may, probably, have been attended with spasm of Wilson's muscles†; and some diffi-

* Bermond, sur les Rét. de l'Uret.
† Lect. on Princip. and Pract. of Surgery.
‡ Rét. d'Ur.
§ Path. Ext.
‖ Leç. Orales.
¶ Med. Recorder, April 1842.
** Gaz. des Hôp. 1842.

* Rech. sur une cause peu connue de Retent. d'Urine, p. 53.

† I have always thought what Wilson has described as a peculiar muscle to be only a portion of the levator ani. Quite recently. M. Gosselin has stated that I was mistaken in this respect; and, according to this distinguished anatomist, "the true Wilson's muscle forms a real muscular interlacement disposed like a ring, and not a loop." (Arch. de Méd. Fev. 1845). I have however two works wherein Wilson has given representations of his muscle, viz. vol. i. of the Medico-Chir. Transact., and his "Lectures on the Urinary and Genital Organs;" and in these, the muscle is both figured and described as attached before, to the pubis (close to its symphysis) and decussating behind with its fellow of the opposite side, between the membranous portion and the rectum; thus making an arch, wherein we discover no trace of annular fibres. Moreover, according to M. Gosselin, Wilson's muscle only envelopes the membranous portion at the part nearest the bulb, while in the plates above mentioned, on the contrary, the plane of muscular fibres in question not only covers the membranous portion from the bulb to the prostate, but even a little of the apex of that gland. M. Gosselin again asserts that none of the anterior fibres of the levator ani go to the membranous portion, but that they are lost in the cellular tissue uniting the prostate and rectum—a statement which seems to me incorrect in several respects. In a former volume of "Researches" I have said that, independently of the horizontal layer of the levator ani which closes the pelvis inferiorly, and is nearly the only one described by anatomists, there is another, inferior and perpendicular to this. It arises from the pubis, in front of and a little below the pubic arch, and also from the ligamentous fibres between the symphysis and the deep perineal portion of the urethra. The superior fibres of this plane skirt the prostate from before backwards, and terminate, not as M. Gosselin supposes, by an interlacement between the gland and rectum, but by uniting by aponeurosis with some anterior longitudinal fibres of that intestine. The inferior fibres have not all the same disposition: the more external (which, as far as I know, were never described before I did so,) go to the anus; the internal skirt the membranous portion, and go, like the superior, to form an aponeurotic interlacement with the longitudinal fibres of the rectum, after having invariably formed some decussations with those of the opposite side, between the urethra and intestine; and this I believe to be Wilson's muscle.

Thus the anterior surface of the rectum presents an aponeurotic interlacement in the shape of the letter V; the point of which, terminating at the central aponeurosis of the perineum, corrresponds to the membranous portion of the urethra; and the branches are in intimate union with the latero-posterior borders of the prostate. It is at these same branches of the V shaped intersection, that the fibres of the vertical plane of the levatores ani are attached,

culty in passing an instrument, with hæmorrhage perhaps on the slightest touch, may have arisen from it; and all this might tend to mislead; but since I have exposed the error, an interpretation, which does not even possess probability in its favour, will, I hope, at the present day be more charily admitted.

As to hypertrophy and congestion of the coats of the urethra, I have never seen them constitute a permanent cause of obstruction, and am not aware of an autopsy of this kind ever having been made; for I do not regard as an example of stricture from swelling of the mucous membrane the case M. Amussat has published as such.* It was that of an old man, who for a long period used Daran's bougies to facilitate micturition, which had become impeded after several attacks of blenorrhagia. "This man," says he, "having sunk from very long standing catarrhus vesicæ, at the post-mortem examination we found the canal contracted for the space of twelve or fifteen lines; and the mucous membrane at this part very red, and presenting a remarkable degree of turgescence. If the finger were lightly passed along the inferior wall no very obvious projection was perceived, but on making a silver sound glide along the same so as to compress it, the beak of the instrument was stopped at the seat of disease. This pathological specimen only exhibits a very slight stricture at the middle and anterior portions of the urethra, though the introduction of a small sound was difficult during life." This tumefaction, for the extent of twelve or fifteen lines, on the inferior wall of the middle and anterior part of the urethra, seems to me simply the effect of chronic inflammation, produced by frequently renewed pressure of bougies at the situation of the suspensory ligament of the penis; and they who will compare this lesion with those described in my memoir "On Inflammation, Ulceration, and Fistulæ of the Urethra, produced and kept up by the continued use of Sounds,"* will not, perhaps, entertain much doubt on the subject. Probably dysuria in this case resulted from an affection of the deep portion of the canal.

In all post-mortem examinations of indisputable stricture, the tissues are said to have been white, smooth, and dense; and it has often been noticed, that the canal at the spot in question was as if constricted by a cord or riband tied round it. This circumstance is mentioned in many treatises, and actually described in a case presented to the Anatomical Society†; while Sir C. Bell furnishes a striking instance in his fifth plate, fig. 2,‡ in which this disposition could not be overlooked.

After the numerous specimens met with in my own investigations, and during ten years' constant attendance at the Anatomical Society, I may assert as an ascertained fact, that in every true stricture of the urethra, the parietes of the canal are smooth, white, fibrous, and almost totally destitute of vessels. In many cases, not under treatment before death, the canal appears circularly strangulated; in others, in which the stricture has been dilated, the strangulation is scarcely or not at all perceptible; but then the parietes are reduced to an extreme degree of attenuation. In a word, instead of hypertrophy and congestion, there is the reverse, atrophy; and the different tunics are so completely amalgamated, that it is impossible to separate them by dissection.

I have, however, one reservation to make on this description; viz. that if the internal surface of the stricture has been inflamed, excoriated, or ulcerated before death, from the repeated passage or continued use of sounds, its smooth aspect and paleness may be less conspicuous. Many observers before me have observed the pallor and fibrous appearance of the parietes of the urethra at the situation of certain strictures; but they all have admitted others produced by tumefaction, hypertrophy of the tissues, vascular injection, &c.: my own claim, therefore, is merely to have established, by numerous observations, the constancy of the characters just described§. I may add, in proof of the justice of my conclusions, that M. Cruveilhier has, by his own individual investigation, been led to the same result‖; and I understand from M. Pétrequin, chief surgeon to the Hôtel-Dieu of Lyons, that many cases he has collected tend entirely to support my position. The foregoing considerations, and what I have already said

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and it is altogether below, towards the point of the V, that those of one side can alone decussate with those of the other. The vertical planes of the levatores ani are separated from the lateral surfaces of the prostate and the membranous portion by a fascia extending from the superior aponeurosis of the pelvis to the middle, and lost behind in the common interlacement I have just described.

Now, do there exist, between this fascia and the membranous portion, any muscular fibres surrounding the canal like a ring? I have hitherto seen only fibrous tissue and a vascular network; yet the statements of M. Gosselin call imperatively for new investigations on my part. Still, whatever be their result, practice has shown me that the principal obstacle produced by spasm in this region depends upon a dragging of the membranous portion towards the pubis, which is fully explained by the anatomical arrangement I have described.

* Leç. sur les Retent. d'Urine, p. 16.

* Journ. des Con. Med. Chir. Avril, 1840.

† Bull. 1826, p. 17.

‡ Engravings from Specimens, fol. 1813.

§ See my memoir "Sur l'Influence des Rétréc. de l'Uret. dans l'applic. de la taille et de la lithote." Jan. 1839.

‖ Ann. de la Chir. Fev. 1842.

upon spasmodic stricture, demonstrate how little foundation have the opinions of Home and those who adopt his doctrines; it is therefore needless to insist longer upon this subject.

Strictures are not produced by false membrane; for in the majority of cases the parietes of the urethra are altered in the whole, or at least the greater part, of their thickness. I am not aware that false membranes can become thus identified with the mucous: for in diphtheritic affections, the pseudo-membranous productions usually become detached or absorbed; and it would be hard, without the most peremptory proof, to allow an exception for the urethra, washed as it continually is by the urine. Again, at what period have false membranes their greatest thickness? At that of their formation, that is, at the acute stage of the disease. If, then, such were the origin of stricture, the false membrane should most completely oppose the passage of the urine when inflammation of the urethra is at its height; and dysuria ought to diminish in proportion as that period passes away: but when difficulty of micturition does arise at that time, it is in general merely temporary, and does not become permanent until inflammation has either long become chronic, or even completely ceased.

The latter remark equally proves that stricture is not the result of induration produced by deposit of plastic or albuminous lymph within the parietes of the urethra or on their exterior; for, were it so, the urine would be most impeded during the inflammatory action engendering that lymph. In support of this theory, the only fact meriting attention which I have met with in my reading, is in Lallemand's work on the Diseases of the Genito-Urinary Organs. It is the following:

"In a patient, admitted into hospital, in 1822, for strangury, who died a few days afterwards of spontaneous perforation of the stomach, I found a stricture at the subpubic curvature, capable of admitting a hollow sound. The canal laid open in its whole length exhibited at the strictured point a circular thickening of the mucous membrane, which commenced and terminated gradually, so that the section on each side resembled a spindle divided along its great diameter. The external outline was as protuberant as that corresponding to the surface of the canal; thus the cylinder forming the obstacle, extenuated at its extremities and thickened in the middle, created no less prominence externally than within. In dissecting the mucous membrane, I found it so adherent opposite the disease, that it could not be removed entire; which proves that the cellular tissue uniting it to the subjacent parts had participated in the affection. The altered tissue was yellowish white, firm and resisting, but little elastic, and very easily torn: it presented no distinct appearance of fibres; and an albuminous substance was deposited in the meshes of the mucous membrane as in a sponge."

We may observe, M. Lallemand does not say, that the thickening of mucous and submucous tissues externally intrenched on the outer beds of the parietes of the urethra, so that thickening of those parietes at the situation of the disease resulted. The only question he is here considering, is, as to the appearance presented by the section of the indurated cylinder; and since M. Lallemand believed the induration confined to the mucous and sub-mucous tissues it could not have extended to the external surface of the spongy tissue, which in the bulb has a considerable thickness. I shall return to this point immediately.

They who regard callous strictures as resulting from the cicatrization of ulcers, think the white and hard substance which forms them, only an accidental tissue for the purpose of covering the ulcerated surface, and of the nature of those named inodular [inodules] by Delpech, who seems to have fallen into great exaggeration on this subject.

I now come to explain my own view of the formation of stricture; six years have elapsed since I published it, and every case I have observed since has appeared to confirm it: let us see whether it have not more substantial basis than the theories I have attempted to refute. The spongy tissue of the urethra is merely an appendage of the vascular system:—"It is formed," says Béclard, "of minute arteries and veins interlaced like a network of capillaries; the sole difference being, that in this instance the venous radicles are unusually developed and dilated in a peculiar manner; these dilatations are slightly cellular, and continuous only with the veins, the lining membrane of which is prolonged into them."* If there be such analogy, is it not evident that the processes which take place in an inflamed vein must throw much light upon the consequences of inflammation of the spongy tissue of the urethra?

When inflammation attacks a vein, its lining membrane reddens and loses its polish, and the blood coagulates in its interior; at the same time its parietes become thickened, red, friable, and less elastic, and form a hard painful cord. At this stage two things may happen: either inflammation continues; in which case the secretion of the lining membrane becomes puriform, the coagulated blood itself apparently being converted into pus; which (should nothing more serious occur) eventually makes its way out of the

* Addit. à l'anat. gén de Bichat, p. 119.

vessel, when the latter is obliterated and reduced to a simple cord: or the inflammation ceases, and the obstructed vein no longer allows the blood to pass; the clot already formed within it is gradually deprived by absorption of its more fluid parts; it diminishes in volume, becomes more and more pale and indurated, and at length disappears; the parietes of the vessel then come in contact, and are obliterated; and the vein, as in the former case, remains merely as a small, fibrous, white, and very hard cord. In erectile venous tumors this same process takes place, when from any cause adequate inflammation arises. We know well the change which then is effected, since from that knowledge have sprung several of the operations for their cure; though I question whether the mode in which it is accomplished has been well explained and understood. I have been led to this doubt from observing surgeons expect these tumors to subside immediately on inflammation being excited; not waiting sufficiently long (previous to adopting more severe measures) for absorption to complete in the obliterated capillaries, what we have seen it effect in the larger vessels.

The same phenomena occur when any portion of the corpus spongiosum urethræ is attacked with inflammation: the part affected often forms a painful knot, large and hard enough to be perceptible on the exterior; and if we cut into it and subject it to a stream of water, we find the walls of its areolæ thickened and filled with blood, which disappears but imperfectly under the ablution. If inflammation persist, infiltration of pus supervenes, which eventually is discharged either into the canal or on the exterior; and then all the areolæ which have suppurated are obliterated. This obviously cannot occur, without the tissue of which they form part being condensed and diminished in extent, and the urethra being contracted at the corresponding point.

Should inflammation, on the contrary, be arrested in its progress, the more fluid parts of the blood are gradually absorbed, the coagulated fibrin is condensed, and assumes a pale yellow colour; and this is undoubtedly the period at which the cells were believed to be filled with concrete albumen. The induration forming the stricture, of which I have quoted above M. Lallemand's description, was probably, judging from its thickness, its yellow tint and friability, only in this stage; the latter character in particular proves the recency of the morbid alteration, for inflammation, it is well known, destroys the consistence of tissues. At a still later period, when absorption is more advanced, we find, instead of the normal spongy tissue, a white fibrous homogeneous knot, nearly as hard as cartilage, less in size than the inflammatory tumor to which it succeeds, oftentimes less even than the natural structure it displaces.

From this gradual contraction are produced the strictures known by authors as "organic:" in short, if we suppose, for perspicuity sake, the parietes of the urethra formed of a single series of cells disposed in a circle, it is evident that in proportion as each of the cells is contracted, the area of the circle they enclose will be diminished. The gradual progress of the complaint, as just described, explains why in general strictures do not manifest their presence by their sensible effects, until a long time after the inflammation which has produced them; in fact, this alteration and condensation of the parietes of the urethra is not a direct effect of the inflammatory action; but, on the contrary, one might almost say, is a very indirect effect of its cessation.

To continue the development of my theory:—What takes place at the wound, when a patient has undergone amputation of the penis? The areolæ of the cavernous and spongy bodies suppurate, and are obliterated; the stump is rounded and condensed, and the canal simultaneously contracted—a phenomenon constantly observed in these cases. Boyer cites an instance in which its obliteration was nearly complete in eighteen months*; and in the Archives de Médecine† are many examples of similar operations, one performed on the horse by Barthelemy, and others on men by M. Roux, in all of which stricture supervened. Mr. Smyly‡ has dwelt upon this untoward consequence, and advised for its prevention to unite the mucous membrane to the skin by the first intention; a precaution which, though not necessarily effective, appears to me good, because it shortens the duration and extent of inflammation. Strictures of this kind have been ascribed to contraction of the cicatrix; but we must recollect that this is contraction not confined to the extremity of the stump. "The corpora cavernosa," says M. Roux, "which one might think would not contract much, are yet capable of great retraction in progress of time; so that the stump, though long at the moment of operation, is reduced by degrees to a very small size." May we not, in this sentence, trace a description of the course of inflammatory strictures?

The observations I have made apply also to strictures consequent on wounds involving the canal, though cicatrization be but little retarded; and for the same reason, incisions into the perinæum are almost constantly followed by more or less decided stricture, es-

* Mal. Chir. t. x. p. 365.
† Vol. x. p. 518 (1826).
‡ Dublin Medical Press, 1840.

pecially (according to M. Civiale), if convalescence be long protracted.* I have frequently observed that these strictures become decided, when the bulb is concerned; and the reason is simply that contraction is so much the stronger as the areolæ of the tissue in which it operates are larger and more numerous.

According to my theory, contraction of the affected tissue should be in length as well as in breadth; to this the majority of the expositions given of the formation of stricture are opposed; but it is a fact easily verified in many cases, and has been positively pointed out in the description of a specimen presented by M. Guéneau de Mussy to the Anatomical Society. "I found," (these are his words,) "at the autopsy a fibrous stricture occupying the commencement of the bulb and membranous region, which had evidently diminished in length."† But it is chiefly when the morbid change occupies a certain extent of the spongy body that this diminution becomes palpable; and above all, when the penis is erected. There exists such a resemblance between the cavernous tissue of the penis and the spongy tissue of the urethra, that we should expect the former to be subject to the same alterations as the latter when inflammation invades it; and this is actually the case. Moulinier, of Bordeaux, reports the case of a man who in consequence of a contusion had inflammation, which totally destroyed the integuments of the penis. "The corpora cavernosa," says the author, "rotted; the softer parts disappeared by a kind of liquefaction; and what was remarkable the fibrous tissue, which is thick and elastic, resisting decomposition, contracted on itself, and the penis was soon represented only by a cord of the size of a quill."‡ It had been a truly remarkable thing, as M. Moulinier says, had the fibrous sheath remained, despite the loss of its interior tissue and of the skin: from whence could then have come the blood necessary for its nourishment? It is besides not stated how this sheath was opened, nor how it was emptied of the debris of the tissue; and the liquefaction spoken of, seems, from the way in which the author expresses himself, a mere hypothetical process by which he explains the retraction of the organ.

M. Tanchou alludes to a man who for forty-two years experienced difficulty of micturition, and whose canal appeared contracted throughout. The induration he found along the entire track of the urethra extended even to the corpora cavernosa, so that curvature of the penis resulted;—"when I examined cornu," says he, "I was struck with the diminutiveness of the organ; the tissues forming it had been so far absorbed that the skin enclosing it was flaccid, and the prepuce elongated."*

This diminution of the corpora cavernosa has been noticed by many observers; Mr. Shaw†, for example, states that sometimes the whole penis is atrophied and incapacitated for erection: the change results from an action analogous to that we have mentioned in the spongy tissue of the urethra.

As persons seldom die when recently the subjects of inflammation of the urethra, I shall be asked for proof that the phenomena are as I have described them. I reply, In the first place, that my theory has analogy more in its favour than others have; and what difference is there between the larger and the smaller vessels, that the same phenomena which occur in the one set should not take place in the other? But this argument, though not without force, is not the only one I can adduce.

While assisting, in 1839, at the autopsy of a phthisical subject, at La Charité, I observed a discharge from the urethra; and on examining, in consequence, the urinary organs, found inflammation, characterized by vivid redness of the whole extent of the canal. As there was, besides, a stricture at the origin of the membranous portion, I preserved this specimen: it has now been macerated several years in spirit of wine, and the redness has entirely disappeared; but at about three inches‡ from the orifice of the meatus there is seen, for a certain space, a tint of deep black, circumscribed and existing positively in the spongy tissue of the urethra. In my opinion the maceration has made the redness of the urethra disappear, because it was due to fluid blood remaining in its vessels, whilst the blackish stain has not disappeared, because it arose from coagulated blood. I have another preparation, in which a uniform blackish tint occupies the membranous portion and commencement of the bulb; the rest of the urethra, in its whole extent, being, as in the former instance, blanched by maceration.

A man named Coppe, æt. 53, was admitted into the Hôtel Dieu on the 6th of July, 1836, for retention of urine, accompanied with severe fever, having been treated for the same complaint in the preceding February. He informed us he had only made water with difficulty a few days. The skin of the penis was red and erysipelatous; that of the scrotum was sound; but in the perineum was a circumscribed tumor, longer from before backwards than

* Mal. Org. Gen. Urin. t. i. p. 157.
† Bull. 1839, p. 9.
‡ Traité des Mal. des Org. Gen. Urin.

* Traité des Rétréc. p. 120.
† Med. Chir. Trans. t. x. p. 352.
‡ Seven or eight centimetres: the centimetre is 0·39, *i. e.* nearly 4-10ths of an English inch, or 4 lines.—TRANSL.

from side to side, and very painful. It was feared that rupture of the urethra had taken place behind a stricture, but the sound passed easily, excepting perhaps opposite the tumor, where a little difficulty was experienced; it being necessary to carry the beak of the instrument slightly to the left. According to authors, we ought to have found at the level of the tumor an effusion of plastic lymph, of gelatino-albuminous or adhesive matter, &c,; but in reality the bulb was considerably swollen, its parietes were six lines in thickness, and its areolæ were very friable, and filled with black blood. This disease extended twelve lines in front of the bulb; the canal was inflamed, but there was neither stricture nor rupture of the urethra. Had this patient survived, what would have taken place in this highly inflamed bulb? Its areolæ would most likely have suppurated; but if not, I question whether they would have escaped obliteration.

In another case, in which, in the progress of a malady which proved mortal, the glans and urethra became the seats of violent inflammation, I demonstrated coagulation of the blood in the spongy body; and very careful washing, and several weeks' soaking in alcohol, have not made it disappear. Had this subject lived, what would have become of the obstructed areolæ?

[To be continued.]

## Original Communications.

### DIFFICULT LABOUR FROM MALFORMATION OF THE OS UTERI AND VAGINA;

#### TREATMENT BY INCISION.

By G. Millett Davis,
Surgeon to the Liverpool Fever and Workhouse Hospitals.

Elizabeth Daly, ætat. 20, a robust woman, unmarried, was admitted into the Lying-in Ward of the Liverpool Workhouse, at 1½ A. M. May 21st, 1845, being at the time in labour with her first child.

On examination the os uteri was not felt: about 3 A. M. a quantity of liquor amnii escaped. At 10 A. M. the pains were strong, but the labour had not progressed; the os uteri had not been found.

At 1 P. M. I was requested by the house-surgeon to see the patient; the pains were strong, frequent, and regular, and of a bearing down character; the vagina was found to be unusually short, not more than 2½ inches in length; every portion of it could be distinctly felt. A firm longitudinal band extended along the posterior wall, as though the vagina were puckered longitudinally, while, above, the vagina terminated abruptly in a pouch; the finger was passed over every portion in succession, and the pouch found perfect in every part; at the upper part of the vagina, a little anterior to the usual situation of the os uteri, an ill-defined crescentic margin was perceived terminating gradually behind in the parietes of the vagina. Immediately posterior to this margin the parietes of the uterus and vagina appeared thinner to the touch than in any other position; a small quantity of a dirty-coloured fluid flowed at intervals from the upper part of the vagina; no os uteri was felt; the head of the child was pressing down upon the vagina, and descended slightly with each pain; the rami of the pubic arch were more nearly approximated than usual, but not to such an extent as to cause serious deformity; the bladder and rectum had been freely evacuated.

I was of opinion that the obstruction to labour consisted, not in occlusion, but in an imperfect condition of the os uteri, inasmuch as it was quite certain that liquor amnii had escaped; that the crescentic margin was the anterior lip of the os uteri, and that an opening rendered indistinguishable to the touch from its being valvular, existed behind this margin.

It was therefore deemed necessary to make an incision in this position, and, before proceeding to do so, forty minims of laudanum were administered with a view of diminishing the severity of the pains. The laudanum did not in the least control the pains. Before proceeding to make an incision, another very careful examination was instituted, and now, during a pain, I distinctly felt an aperture large enough to admit a crow's quill in the position indicated as having felt thinner than any other part, immediately behind the crescentic margin; the opening could scarcely be perceived during the intervals between the pains; there were no lips, no elevation of margin whatever.

At this time the upper part of the

vagina was not more than two inches from the vulva, and on placing the patient on her back, separating the thighs, and opening the vagina with the fingers, this small aperture was seen perfectly, having the appearance of a circular hole made by a punch, barely large enough to admit a director of common size, and through it the hairy scalp of the child was perceived.

A director, bent at an obtuse angle three quarters of an inch from the point, was introduced into the cavity of the uterus through this defective os uteri, and passed directly backwards, in which direction an incision near an inch in length was made with a probe-pointed bistoury, guarded by means of a little adhesive plaster to within an inch of the point: a catheter having been previously introduced into the urethra, the cutting edge of the bistoury was turned directly forwards, and an incision made to the extent of a quarter of an inch. The structure divided was of a firm texture, a quarter of an inch in thickness; not a teaspoonful of blood flowed, and the patient did not complain of pain. There were no bands on the sides which appeared to require division, and it was therefore thought advisable to wait and see the result of a few pains.

5½ P. M., about three hours after the operation, the pains continued strong, the os uteri was dilated to a size considerably larger than a crown piece, the margin thin and of a natural feel; the posterior band, however, was still firm and resisting; the patient was cheerful, and the pulse tranquil. As great progress had been made, it was resolved to wait for a few hours.

At 11 P. M. the patient was becoming exhausted; the skin frequently bedewed with a cold clammy sweat; the countenance anxious; the pulse 130, and small; the pains were very powerful, and recurred every five minutes; the vagina turgid from venous congestion, dry and hot; the head was low down in the cavity of the pelvis, the swollen scalp in the form of a cone pressing through the os uteri; the os uteri was much more dilated than at 5½ P. M., but six distinct, firm, and unyielding bands were observed taking a short course from the vagina to the os uteri, as if formed by puckering of the vagina, one on each side of the urethra, two laterally and two posteriorly much stronger than the others: the bands became very tense during a pain.

It was considered necessary to divide these bands, and this was done immediately with a bistoury guarded as before, an incision being made through each: a little additional room was thereby obtained, but still the head did not make progress during the very powerful pains, being obstructed partly by the approximation of the rami of the pubes, chiefly by the malformation of the soft parts.

Dreading, then, rupture of the uterus with escape of the child into the abdominal cavity on the one hand, and extensive lacerations of the cervix uteri and vagina on the other, the patient moreover being much exhausted, having an anxious countenance, the skin being bedewed with cold clammy sweat, and the pulse 130, and small, it was decided to open the cranium of the fœtus, and to endeavour to deliver the woman at once.

The perforator was therefore applied to the protuberance of the right parietal bone, the presenting part: a sufficiently large opening was made: the brain was broken up and escaped freely; the uterine contractions continued; the short forceps were applied, and traction made during each pain, and within a quarter of an hour the head emerged, the face turning to the inside of the mother's left thigh: the cord, which was round the neck, was slipped over the head; the shoulders and body were expelled by the uterine efforts, and the placenta was detached about ten minutes after the birth of the child; no laceration occurred; there was no hæmorrhage; the uterus contracting firmly; the patient was much exhausted; she was made comfortable, and forty minims of laudanum administered. The child was a large well-made female child.

The following day, the patient had slept well; she was troubled with slight after-pains; there was no abdominal tenderness; pulse soft and compressible, below 80; tongue clean and moist. She recovered without a bad symptom, and left the hospital in four weeks from the time of delivery.

Previous to her leaving, I made an examination as to the condition of the

vagina and os uteri. An inch within the vagina a distinct and firmly resisting ring was observed, and within this the os uteri flattened, and not protruding into the vagina, and of an irregular form; from the left margin of the os uteri, extending between it and the ring, was a firm, thickened band, resembling somewhat the contracted cicatrix of a burn, and a second band took its course along the posterior wall of the vagina.

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## SHORT NOTES OF SEVEN CASES OF OXALATE OF LIME IN URINE.

By Charles Pooley,
Surgeon, Cirencester.

We are indebted to Dr. Golding Bird for opening a new era in the pathology and treatment of a class of very interesting but intractable disorders, by his discovery of the frequent occurrence of oxalate of lime in unhealthy urine, and the elegant hypothesis he has offered of its formation. Certainly his work may be considered a boon to the profession, as it is a concise and practical guide, which may be safely followed with success.

The introduction of the microscope, too, as an auxiliary in the investigation of disease, has not hitherto met with the support it deserves; and it is therefore with a view of bearing my testimony to its advantages that I place on record a few short notes of my experience in its use in the examination of urinary sediments, premising that where any doubt existed as to the nature of the deposit I was careful to submit it to the test of chemical examination.

W. H., æt. 46, a stout well-made man; married. He had been in service as a gardener for many years, and from the nature of his occupation was constantly exposed to considerable and sudden changes of temperature. For the last year or two of his life he used to complain of unwonted depression of spirits and anxiety, and suffered from attacks of debility which were usually preceded by profuse perspirations, and which for a time quite disabled him from work; he had also occasionally, especially if the weather was very cold, congestive pneumonia, which a little blood taken from the arm generally relieved. His habits were temperate, though he was accustomed to indulge freely in the use of tobacco.

On carefully examining his urine, I found it acid, of a pale amber-colour, and of density 1·019, exhibiting to the microscope numbers of well-defined dumb-bells, *trefoils*, *quatrefoils*, and even *cinquefoils* of oxalate of lime, a few lozenges of uric acid, and some scattered bi-lithate of ammonia.

The treatment consisted in giving the dilute nitric and hydrochloric acids in a bitter infusion twice a day, an hour before breakfast and dinner, enjoining a non-stimulating diet, the avoidance of all vicissitudes, and general ablution and friction of the skin.

He persevered in this plan for two or three months, and the improvement in his health and spirits was so marked that he requested to be permitted to leave off medicine. At this time the character of the urine was not much changed; its density was reduced to 1·118, though the oxalates remained apparently as abundant as before.

Some time after this, a severe cold, accompanied with a recurrence of his pulmonary symptoms, was the cause of his friends advising his removal to Malvern, to submit to "*a course*," in the "*Kursaal*" of the hydropathists. Whilst there, he was "*douched*" and "*packed*" and "*kneaded*" with untiring zeal, but with no other effect than that of convincing the poor fellow that the "*crisis*" was at hand. He came back considerably worse, and emaciated greatly; and from this time his health declined. Phthisis had now developed itself; his cough was nearly incessant, sputa copious, purulent and nummulated; urine abundant; the oxalates had entirely disappeared, having been replaced by the earthy phosphates, sp. gr. 1·016 only. He died in a week or two afterwards.

Remarks.—The remarkable features of the foregoing case are—the extreme exuberance of crystallization of the oxalate of lime, the supervention of phthisis, and the displacement of the oxalates by the earthy phosphates.

Respecting the exuberant crystallization of the oxalate of lime, it appears to be a phenomenon that has hitherto escaped observation. I have noticed it in several instances, and particularly after the use of the mine-

ral acids; minute dumb-bells become large and regular, their margins sometimes palmate or crenate, and frequently very beautiful quatrefoils, cinquefoils, &c. are formed, which clearly spring from one centre, and are not the result of a mere accidental distribution of separate crystals. I here am careful to distinguish between the foliaceous stars of the phosphates, and the regular dumb-bell *quatrefoils* of oxalate of lime; the former being less dense and irregularly indented, the latter of very high refractive power with regular stems and clearly defined margins.

In this as in many other instances the eye failed to detect the slightest deposit in the urine, even when largely diluted in a watch glass; though a drop of the same urine placed on a slip of glass, and examined with the microscope before it was quite dry, exhibited the beautiful crystals before alluded to.

The second case is that of Richard M——, a labourer, æt. 35, married. He had been afflicted with partial amaurosis in both eyes for some years, which had so much increased lately as to render him nearly blind: no disease of the brain could be traced. I saw him for the first time in June last; he was then in bed, and trembling violently; his hearing was preternaturally acute. He complained of excruciating pain darting through his head and down the spine; constant aching across the loins; nausea and profuse diaphoresis; severe and unremitting pain in the epigastrium; prostration of strength; scanty high-coloured urine and some diarrhœa.

I took a little of the recently passed urine home with me, and discovered it to contain literally myriads of large well defined octohedra of oxalate of lime, some fine dumb-bells of the same salt, much vesical mucus, epithelia and biurate of ammonia; its specific gravity was 1·028.

*Treatment.* — Alteratives and aperients; the exhibition of the nitric and hydrochloric acids in a bitter infusion combined with the Tinct. of Indian Hemp, and small sedative doses of Morphia at night.

In a month from the time he was first under treatment his health was so far mended as to enable him to walk the distance of three miles to report himself. The pain in the pit of the stomach had ceased, he was quite free from any uneasiness in the head and spine, there was no nausea nor particular diaphoresis, and he expressly declared his sight improved.

The urine at this time was abundant, bright amber on being made, but became cloudy on cooling. Oxalic octohedra still remained, but fewer; the dumb-bells had disappeared, and there was very little mucus and epithelia. The specific gravity was reduced from 1·028 to 1·022. He considered himself well enough to leave off medicine.

Case III.—R. F., æt. 38, a butler, unmarried; numerous furunculi were scattered over his hands, neck, arms, and legs. His general health was not much disturbed; he is subject to occasional attacks of gout. His habits have been rather intemperate.

*Urine* acid, of density 1·023, presented to the microscope beautiful stellæ and groups of irregularly crystallized crosslets of earthy salt, palmated and regular dumb-bells of oxalate of lime, and large and well-defined octohedra of the same salt; also some rhomboids of uric acid were scattered over the field.

The nitric and hydrochloric acids were given in bitter infusions, bread poultices applied to the boils, and his diet restricted.

In three weeks the boils were quite gone, but the urine still contained dumb-bells of the oxalates, but not so numerous as before; no octohedra could be discovered in it: its specific gravity was not ascertained. He was compelled to return to service at this time, and has omitted all medicine since.

This is another instance in which the palmated variety of dumb-bell crystal occurred.

A gentleman, aged 42 years, in easy circumstances, of spare habit and extremely temperate, has suffered for years past from the effects of tardy portal circulation, and occasional attacks of spasmodic asthma, for a slight return of which he was now a patient.

He passes daily an abundance of pale amber urine, which is slightly acid, and density as low as 1·116, containing well-defined *nodulated* dumb-bells and octohedra of oxalate of lime, large isolated triangular prisms and cubes of common salt, a few phospha-

tic stellæ, and dark yellow rhombs of uric acid. As he had never taken the mineral acids, they were now prescribed in combination with iron. The effects of this treatment continued for several weeks have been to lessen the frequency and moderate the severity of the asthmatic attacks, and greatly to improve the tone of his general health.

The oxalates have quite disappeared from the urine, though he has omitted medicine for some weeks.

Two varieties of the dumb-bell crystal I have occasionaily met with, are, the nodulated or loaf shape, as it more nearly resembles a cottage loaf laid sideways, or a dumb-bell without any intermediate stem; and the spiked, which is a regularly defined dumb-bell with a short spike projecting from the extremities. Their appearance gives the idea of extreme compactness. The former possesses a thickness which raises it above the surface of the fluid on the glass, and I am not quite sure that its superficies is not facetted.

A little boy, æt. 4 an., the son of a gentleman of fortune, had been unwell for some weeks. His countenance was pale, and dark under the eyes, his skin hot and dry; he had no appetite, and complained of headache and occasional nausea; his tongue was pale and flabby, a little coated on the dorsum; pulse 68, moderately soft and full; bowels active, the secretions pale coloured. Urine abundant, slightly acid, depositing a quantity of exceedingly beautiful prisms of triple phosphate. Under the microscope appeared groups of well-defined large dumb-bell and octahedral crystals of oxalate of lime, possessing great beauty and variety; in the same field were stellæ and prisms of triple phosphate, and rhomboids of uric acid. The sp. gr. was unfortunately omitted to be taken.

*Treatment.*—Mild alteratives and aperients, the nitric and hydrochloric acids in vegetable bitters, and total abstinence from all fermented liquors, and saccharine articles of food.

In nine days all unpleasant symptoms had disappeared; his appetite had returned, he was free from headache, and quite cheerful. The secretions from the bowels were natural.

In a few days more he left off medicine, when the urine was examined and found to contain a few scattered octohedra, but no dumb-bells of oxalate of lime, several large cubes of chloride of sodium and groups of lithic acid lozenges; a few stellæ of phosphates still remained, but the prisms had quite disappeared.

In forming a prognosis from the presence of oxalate of lime in the urine, an important distinction should be borne in mind, between its occasional occurrence from temporary causes, as in the present case, and its existing as the effect of some chronic derangement of health. In the former case the symptoms are generally speedily relieved by medical treatment and restricted diet, and the patient is restored to health; in the latter, though the oxalates may disappear, and the patient's health be benefitted, there is a tendency to relapse upon the slightest vicissitude or indiscretion.

The following is another instance of the temporary occurrence of oxalate of lime in the urine:—

Miss N., æt. 1½ an., had an herpetic eruption behind the ears, extending over the temples and slightly marking the forehead. Her general health was considerably disturbed.

The urine was scanty, pale and acid, depositing a slight cloud on standing, and showing under the microscope numerous stellæ of phosphates, and a profusion of remarkably fine dumb-bell crystals of oxalate of lime: density, 1·022.

The treatment consisted in mild alteratives and aperients, the acids in bitter infusion, and avoidance of all saccharine and amylaceous food. At the end of eight weeks the eruption had quite disappeared, though no local application had been used, and the child's health was quite restored. No oxalates could be discovered in the urine; the sp. gr. of which was reduced 1·118.

In a case of psoriasis in a stout healthy lad, of 17 years of age, the urine was of a dark greenish-amber colour, rather scanty, and depositing an abundance of bi-lithate of ammonia on cooling. The microscope detected quantities of minute octohedra of oxalate of lime and a few isolated lozenges of uric acid, density 1·032. After taking the nitric and hydrochloric acids in vegetable bitters for a week, I again examined the urine, and found its colour changed to pale amber, of sp. gr. 1·027, and completely

loaded with fine octahedra and dumb-bells of oxalate of lime. In another week the eruption had disappeared, and he consequently discontinued medicine. The urine was then abundant, pale amber, and of sp. gr. 1·025. Scattered octohedra and dumb-bells still remaining.

My own experience leads me to believe that oxalate of lime plays a much greater part in the constitution of unhealthy urine than is generally allowed; and moreover that it may co-exist with a state of almost robust health for a length of time, without producing any of those disturbing effects which are attributed to its presence, provided the vital powers are kept exalted, and the supply of convertible ingesta equals the demand. But if, on the other hand, a person passing oxalate of lime in the urine, has the vital powers from any accidental cause depressed, then the effects of the tendency to form oxalic acid will be felt, and emaciation, debility, anxiety, and a host of unpleasant symptoms, will follow in consequence.

In the former case, though oxalate of lime may exist in the urine, medical treatment is hardly called for, whilst in the latter, the chain of morbid symptoms is complete, and is with difficulty broken by medical treatment.

I am led to infer that oxalate of lime in the urine is not *per se* a specific disease, but only an exponent of a group of morbid complic tions, the treatment of which must greatly depend upon the nature and cause of the prevailing disorder.

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TRANSPARENCY OF THE HUMAN BODY.

At a late meeting of the Academy of Sciences it was announced that by means of the electro-galvanic light, when allowed to enter a dark room, it was possible with the aid of powerful reflectors to distinguish the internal parts of the human body. The veins, the arteries, and the circulation of the blood, with the nerves, became, according to the reporter, distinctly visible. When the light was directed towards the region of the heart, the mechanism of that organ could be easily studied. The author asserts that he has been able to ascertain the existence of tubercles in the lungs of a consumptive patient; and that by rubbing the skin with olive oil, he was even enabled to trace the process of digestion!—*Athenæum.*

This is an entirely new species of *clairvoyance!*

## THE SCOTCH EPIDEMIC FEVER OF 1843-4.

By John Richard Wardell, M.D., Ed.,
Late President of the Royal Physical and Hunterian Medical Societies, Edinburgh; &c. &c.

[Continued from page 291.]

### No. IV.

### 3. *The Pathology of the Disease.*

The fundamental pathology of fever is very imperfectly, if at all understood, whilst the various and conflicting theories which have at every period been propounded as to the prime seat of the affection, instead of elucidating a long disputed question, and decisively settling a subject of contention, that has, both in this and other countries produced innumerable learned dissertations, and elicited many warm discussions; those theories have, from the many and apparently cogent arguments put forth defensive of favourite doctrines, only tended to render more intricate and doubtful a matter still fraught with more than common difficulties in its solution. Those who are at all acquainted with the literature of this particular part of the subject now treated of, must be well aware of the perplexities and obscurity in which it is involved, and the desirableness which there is, that our knowledge, not only respecting the fundamental principles of the pathology, or as Bateman terms it the "essence of fever," but also as to those conditions requisite for the production of the proximate cause, were more accurate and indisputable: so long, however, as the great diversity of opinion, and the want of demonstrative proof, which there are on these points, exists, thus long will our notions not only as immediately regards the curative measures, but as to other important considerations in the establishment of a precise and definite acquaintance with its true nature and phenomena, be based upon no fixed and legitimate principles, but reared upon uncertain and hypothetical grounds: nor is it without a full consciousness of these facts, and a thorough conviction of the difficulties which beset it, when a brief advertence is made to the question, as engaged in the subject of these papers.

In any matter of scientific inquiry, where inferences can only be arrived at by mere theoretical reasonings, very dissimilar, nay, positively opposite, notions are sure to be entertained, because, as the deductions are then formed according to some particular hypothesis presupposed by the reasoner, and as different original inquirers may take up different fundamental views, so must the results come to in like manner vary; and thus it has been and continues to be, with regard to certain branches of philosophy where substantial facts and irrefragable evidence are not producible.

Whatever our information may be relative to the true nature of febrile diseases, it is abundantly evident that very much is still to be acquired before we become satisfied that we are possessed of positive conclusions—conclusions upon which the superstructure of a rational treatment is to be based, and it is repeated while our dubiousness as to many essential considerations exists, so long shall we feel perplexed and baffled in the endeavour to guide the disease to a successful termination. No better proof can be given of the unsettled and indefinite knowledge which we possess regarding fever, than that almost every author of eminence fosters opinions at variance with other writers, and that scarcely any two physicians who have set themselves up as authorities are unanimous on all points. When we take into consideration that from the remote times of Hippocrates down to the days of Hoffman and Cullen, some of the first and most inquiring minds that ever adorned any department of science have exerted their best energies in the laudable endeavour to build up a true and an incontrovertible doctrine as to the cause of fever, and that amongst such illustrious individuals the greatest discrepancy and the most diametrically opposed opinions have been entertained, we become impressed with the conviction that on some of the abstruse points in medicine our knowledge is exceedingly crude and imperfect, and that philosophical investigators have yet very much to discover. When we reflect that in the course of fever how impossible it is to prognosticate with any degree of certainty the supervention of particular symptoms—in what order they shall be observed—which precede or succeed each other—the degree of intensity by which they shall be characterised—which is the primary affection, and which is the secondary—that dissection not unfrequently reveals lesions that were quite unsuspected — that death occasionally supervenes where the morbid conditions of the organs necessary to vital existence are not at all calculated to induce a fatal result, that is, according to the best of our opinions relative to such morbid states —how unfrequently our wisest discrimination is, or appears to be, totally fallacious—and that the greatest care and apparently the most correct judgment displayed in the treatment seem abortive and erroneous—when we reflect upon these facts, we are painfully reminded that our knowledge respecting the radical principles of the disease is exceedingly limited, and that the greatest inducements are held out for the attainment of more positive intelligence to direct our practice. All information to be gained not only of this affection, but as regards diseases in general, is reducible into one grand consideration; viz. to empower us with the means of averting the tendency to death, whether immediately or indirectly, which can only be done by arresting anormal action in the vital organs properly so called, and this must be affected before such structural changes take place, as are necessarily followed by a cessation of the vital functions: hence if we can gain a clear and succinct knowledge of what those anormal actions are in their incipient state a most important difficulty would be overcome, all diseases being far more capable of cure at the outset than they are when in an advanced condition. In fevers, as stated, grave changes may be going on in some visceral organ which do not present symptoms sufficiently prominent to warn us of their existence, at least we are not in the present state of medical science possessed of the kind of knowledge which is requisite for their detection; and it is indeed surprising, when we consider that so many centuries have passed since philosophers first turned their attention to the study of this class of diseases, that our information respecting febrile affections is so vague and inconclusive. Whatever may be the cognisable appearances of morbid

action on dissection in the vital organs properly so called, from inductive reasoning we are bound to admit that the nervous power proper to those organs is in some manner primarily vitiated, but in what such vitiation consists we cannot decide, and if we could but know what was the actual diseased action, and from what condition or combination of states it proceeded, the evils resulting from the consequent disorder of the other functions; viz. the circulatory, secretory, and excretory, which are intimately dependent upon the former, might perhaps be much more readily averted.

The nervous influence proper to the vital organs being disordered previous to that which takes place in the functions of circulation, secretion, and excretion, which, as just enumerated, are the invariable sequents in the circle of diseased actions which operate in febrile diseases, it follows as a rational inference that the morbid conditions resulting immediately from the latter functions will be precisely commensurate with the degree of intensity of the former; viz. that of the nervous function. The observable phenomena of fever, then, are directly dependent upon the morbid condition and altered action of a certain organ or organs, and the degree of intensity with which such organ or organs may be affected determines the general character of the fever, and renders it of a mild or an alarming description. Thus far are we possessed of information relative to the phenomena of fever; viz. that the nervous and sensorial functions in the series of changes which constitute the febrile affection, precede the disorder of the other functions, but whether the nervous function be in an occult manner primarily affected by a vitiated state of the blood, as some theorists have contended, we cannot determine, this being the *questio vexata* hitherto undefined.

The humorists, the solidists, and the chemical pathologists*, have each endeavoured, and some with great ingenuity, to support their respective notions, yet if we espouse the one or the other of their doctrines, the etiological deductions arrived at, even with those that seem to bear the greatest semblance to truth, may be assailed by many and unanswerable objections—

* Paracelsus, Van Helmont, Campanella, &c.

objections that in no slight degree invalidate whichever way of thinking may be adopted as the most plausible and correct. When the physician is called to a case where the febrile symptoms are of an inflammatory order; for instance, when the brain and its members are affected—when he sees a dry and parched tongue, a glossy ferocious looking eye—when the skin is hot and burning—the pulse quick and strong—the urinary excretion high coloured, and voided in decreased quantity, with other symptoms of excited vascular action, he favourably reviews the solidal theory.* If on the other hand a patient be observed labouring under the highly congestive form of the disease — where there is great prostration—a livid pallor of the countenance—diminution of animal heat—a small and compressible pulse—the lips and teeth covered with sordes — petechiæ and vibices scattered over the surface, with an obvious tendency in the whole system to run on to a state of putridity—the humoral doctrine then appears far from being incorrect. To draw the line of demarcation, however, between what may be termed a humoral or a solidal pathology is obviously extremely difficult, for if the location of the primary morbid action be assigned to the capillary extremities, it is impossible, so far as our means of observation allow, to positively affirm where the one terminates or the other commences; in fact, the matter there, according to the best inferences to be drawn by our senses, becomes of homogeneous structure; hence those commonly received notions, which are founded upon a positive division between the solids and fluids, are strictly speaking according to the rules of physiology a mere arbitrary distinction; an assumption that cannot be borne out by ocular demonstration or any inevasive proof. In support of the foregoing assertion the following passage from Andral may be appropriately cited. "The division of the parts of the body into solids and fluids," says that eminent

* At one period the solidal theory was much more regarded than any other in he continental schools, and especially in France: since the views of Broussais, Louis, and his pupils, and some others, the tide of public opinion has greatly turned, and is still progressing in favour of the humoral pathology, showing the vacillation and uncertainty yet existing on the subject.

morbid anatomist, "seems to be a distinction of small importance, and that is not always just, since it ceases to exist in the intimate structure of the organs, in which all the grand vital phenomena take place, and in which also occur all the vital changes which constitute the vital state." There is one thing, however, quite undeniable, that disease must exist in one or the other of these, and perhaps the most correct assertion would be that it is situated in both; at least we find that in its course both fluids and solids evince unequivocal symptoms of diseased action; but to which may be assigned the priority, as previously said, we are not enabled to determine. The humoral theory was the first given to the world, and until the middle ages was implicitly received by the Arabian and other physicians who flourished at those remote periods. The philosophic mind of Galen so firmly believed in the Hippocratic doctrine, that he not only subscribed to the opinions of his great archetype, but endeavoured to extend his views and establish their truth. When the ancients observed cases of fever of the highly congestive form, when they beheld the excretions so vitiated, with a general evidence of a proneness in the system to pass on to putridity, we may readily suppose that they would deem the humours of the body as the chief seat of the disease. When we consider the manifest disadvantages under which they laboured in those distant periods—that their knowledge of the human frame was merely an inference deduced by the comparison of the lower animals, and not founded on any real observation in itself—that the grand discoveries respecting the vascular and nervous systems – systems upon which the vital functions immediately depend, were unknown; and that the light which other branches of philosophy in latter times has diffused explanatory of many mysteries which at those remote periods were obscured by the dark ignorance of the age—when we consider these facts it is scarcely to be wondered at that many of their notions have become exploded, and that more recent opinions are held in higher respect, where demonstration and proof can be brought to bear confirmative of theoretical argumentation.

In important epidemic visitations, where great uniformity has been observed in the distinguishing symptoms of the disease, where after death the lesions were found of one description, together with a sameness in the general phenomena presented, physicians have then been led to incline most to those doctrines promulgated by the schoolmen, which seemed to evince the closest resemblance to the facts under observation. If the brain and its membranes were found injected, and giving traces of inflammatory action, the views of Grandoilliers, Wendelstadt, Ploucquet, and Clutterbuck, have attracted their converts; if much other visceral complication, the deductions of Stahl, Juncker, Sprengel, Armstrong, and others, have been held in estimation; and if the mucous membrane of the digestive canal were found much affected, the opinions of Rhan, Prost, Baillie, Louis, and Broussais, especially the last mentioned, who has so zealously endeavoured to found this theory, have been esteemed.* Many of the conclusions arrived at, however, even by those who have set themselves up as the establishers of an original doctrine, are exceedingly unphilosophical and based upon tottering principles, their promoters having erred because they built up a new theory, and subsequently tried to supply the facts corroborative of certain views, instead of first studying attentively the operations of nature, and then endeavouring to account for the manifested phenomena on the pure principles of demonstration and science. One of the older writers, who was impressed with this conviction, says—"The distribution of distempers into kinds is commonly done to serve some hypothesis founded upon the true phenomena, and hence this distinction is rather adapted to the bent of the author and his manner of philosophizing, than to the nature of the disorder." The master mind of Sydenham, though perhaps inclined to the chemical pathology, saw the absolute necessity of casting off the trammels of the schools, and divesting itself of the fallacies they enjoined; instead of uninquiringly subscribing to received hypotheses and trying to become himself a renowned theorist, laudably descended to study minutely the workings of nature, and by a watchful

* Bonetus, Bartholinus, Petit, Serres, Bretonneau, &c.

observation of the phenomena which diseases manifested, made himself acquainted with many peculiarities and distinguishing characteristics that were hitherto unknown. Bacon found other branches of philosophy in a most unsatisfactory state—the dogmas of the ancients were implicitly embraced, and their chemical imaginings oft sweepingly adopted, without any original or independent spirit of thinking on the part of those who boastingly assumed to be the cultivators of science; his penetrating genius, however, at once saw that to strike into another and new path in the investigation of truth was quite indispensable, and that demonstrative facts could alone rightly supply the void to be made by the rejection of the equivocal tenets entertained by the schoolman and his contemporaries, which mere custom, or the listlessness and mental inactivity of the age, had blindly acknowledged; and what this great reformer in the pursuit of knowledge did for philosophy in general, Sydenham achieved for medicine.

That there is a great and an important difference between symptomatic and idiopathic fever appears undeniable from certain considerations, although, as above stated, there are, and very talented, physicians, who have stoutly disallowed this difference. To entertain a correct theory is of paramount importance, as regards diseases, because upon these theories we found our practice. Pinel has given very sensible and cogent reasons, to show that these two kinds of fever, so called, are essentially dissimilar. Our nosology on many points is very illogical, and the terms employed are quite inexpressive of the meaning which ought to be conveyed: if the orders, febres, and phlegmasiæ, are not identical, symptomatic fever is an expression that might advantageously be expunged from the medical vocabulary altogether, and it might be well to substitute some other phrase, denoting the general disturbance to which a local affection may give rise. Words are but the vehicles of our thoughts—the passive means whereby our ideas can be communicated, and if there be ambiguity, and the want of succinct perspicuity in those means, the ideas themselves intended to be conveyed may be misconstrued or not fully comprehended. There is no consideration relative to the subject at issue demanding greater attention than that which endeavours to point out the specific difference which there is between pure fever and inflammation, because these differences demand an opposite mode of treatment, and thus frequently the greatest dependencies are based on the decision. The definition given by Cullen of this first order, viz., febres, is as follows: "Pyrexia, after languor, lassitude, and other signs of debility, without any primary local cause." Boerhaave reduced the signs of fever to three grand heads, and contended that without such symptoms fever could not be present: these were, "shivering, frequent pulse, and heat." "A fever," says Fordyce, "is a disease which affects the whole system; it affects the head, the trunk of the body, the extremities; it affects the circulation, the absorption, and the nervous system; it affects the skin, muscular fibres and membranes; it affects the body, likewise the mind."* That fever is not inflammation, nor referable to mere local complication, as some have erroneously imagined, appears pretty evident from the following considerations, viz.—

1st.—Because we have the strongest reasons for believing that fever can be produced by miasmatous poisons, and the phlegmasiæ cannot.

2nd.—Cases of fever are seen where the traces of morbid action are not at all commensurate with the degree of intensity of the symptoms before death, and dissection not unfrequently proves that a fatal termination may ensue, where no indications are discernible of congestive or inflammatory action, or at least such morbid appearances as may be detected seem quite incapable of totally arresting the natural performance of the vital functions.†

* Fordyce, "Dissertation on Simple Fever," p. 27.

† Those who have had opportunities of repeatedly witnessing post-mortem examinations of fever, must be well aware of the correctness of the remarks put forth in the text; nor are there almost any accounts recorded of important epidemic visitations, where it has not been noticed that inspections have thrown but little light on the fundamental causes of the disease, and the mode in which it directly induced death; and when it occurs in a sporadic form, the same remarks are equally applicable. Upon a careful examination of the bodies of many fever patients, during the time that I was officiallly engaged in the pathological theatre of the Edinburgh Hospitals, I witnessed a number of instances of those who had not only died of the epidemic, but also

3rd.—The unequivocal symptoms of idiopathic fever may be manifest, causing much constitutional disturbance, prior to the existence of any positive local affection, because the topical complication proceeds from, and is produced by, the conditions incident to the second stage, viz., that of high vascular excitement, which vascular excitement is in a great measure caused by the first stage, that of congestion; and the balance destroyed in the circulation from some hitherto unknown state in the system, during the first stage undoubtedly gives rise to the subsequent local affections, and the degree of intensity by which these affections are marked determine the mild or malignant character of the disease.

4th.—The cure of the topical complication does not cut short the disease.

5th.—The constitutional disturbance may be so great as to mask a local affection that will occasionally usher in a fatal result.

6th.—There is in fevers a natural tendency to progressively become worse, until they reach their acme, when some critical discharge from one or more of the emunctories of the body takes place, from which event gradual symptoms of amendment supervene, a circumstance seldom witnessed in pure inflammations, and certainly never in so marked a manner.

7th.—Fevers may be communicated by personal contact, or by means of the emanations of an infectious effluvia from the affected body.

8th.—The secretions and excretions in fever are more vitiated.

Lastly.—Fever seems to be constituted of certain changes taking place in the system, which changes or events as they have been termed, decidedly differ in their predominant characters from those which are observed in simple inflammation.

The order of succession by which the conditions in question take place can with certainty be prognosticated in fever, as insisted upon above, viz., that the nervous and sensorial functions are the first in the train of diseased actions in idiopathic fever, while we know that the brain and spinal marrow are not necessarily the first to be affected in the phlegmasiæ. The foregoing facts observation has fully established, but we are not possessed of the means of deciding which of the vital organs, properly so called, shall become secondarily affected, nor the intensity of such affection; respecting such in the present state of our knowledge we cannot determine. We know that symptoms are only the results of certain causes, and that to produce those symptoms the causes must operate whether in a latent or apparent manner, and that those symptoms correspond to the power of the first cause. We are aware that a case of pneumonia may be ushered in, and go through its course, without the great nervous centres being primarily disordered, and if such become affected it is last in the series of changed actions. Supposing such case of simple pneumonia to assume what physicians term a typhoid condition in its advanced stage, it would still be very different to the complication sometimes witnessed where the idiopathic fever has preceded; that is, that between typhoid pneumonia, and the pneumonia of typhus, there is a specific difference; yet to give an accurate and precise description in what such difference consisted, would, as previously observed, be exceedingly difficult. Whatever may be the prime origin of fever, it is pretty certain that the first induced condition has a peculiar tendency to favour the operation of inflammatory action, and when such condition is present, inflammation in one organ or another is readily excited. This susceptibility, as observed, is most probably in a great measure dependent upon the circulatory function having become vitiated, and thus the due balance of the circulation being in some degree lost. During the febrile invasion, in the very commencement of the attack, we find that the whole system is affected before the brain and spinal marrow have given any marked evidence of primary or predominating disorder: the patient experiences a peculiar listless depression; the voluntary muscular system participates in disorder, and the excretions are equally affected; phenomena witnessed in the

of the ordinary typhus that prevails in Edinburgh and other large towns in Scotland, where no lesions could be discovered that seemed at all calculated to produce a mortal issue.

Case No. XI., to be subsequently given in these papers, forms one of many examples in the epidemic (especially in patients who suffered under the disease when at an advanced age) where no morbid traces at all worthy of note were detected.

order febres, but not phlegmasiæ. Thus from these considerations it must be allowed that fever and inflammation are two and disinct diseases, and physicians who disregard these facts, forgetting that fevers have to run their course—that they cannot be abruptly checked in their progress like the phlegmasiæ: that there is, especially in those forms variously termed adynamic, asthenic, and congestive, a greater liability to a state of depression in the natural powers of the body, and that these powers require more care in being husbanded when the state of excitement has passed—that attacks which are apparently similar may on account of certain peculiarities in the constitution of the epidemic demand a different treatment; with many other considerations equally important—those it is reiterated who forget these truths are often led into grave errors—errors whose commission is attended with a fatal issue. The localists and essentialists have both very industriously set forth their reasons, and probably both are too exclusive in their opinions: if, according to the former, we are to account for the phenomena of fever by assigning its seat to one organ, then it follows that a rigid system of antiphlogistic treatment directed towards the brain would be most consistent, according to the views of Clutterbuck and others, and that a similar plan with regard to the stomach ought to infallibly cure the species of fever appellated by Broussais gastro-enterite. Experience, however, every day tends to confirm us in an opposite way of thinking. Were we on the other hand to alone advocate the essential theory, the fact that inflammatory action in a greater or less degree is so common in idiopathic fever, that it would be exceedingly difficult to prove such complication, as being always of an adventitious origin. Did space allow, a multitude of arguments might be adduced, which from a parity of reasoning seem to leave no doubt on the mind that idiopathic fever and simple inflammation are essentially dissimilar; yet it must be confessed that were we compelled to precisely define in what their non-identity consists, that is, determining accurately from the proximate cause, the present state of our knowledge would not afford a definite and unequivocal explanation to this question. These facts are now briefly mentioned, because, if the inflammatory theory were correct, the liver, which was most frequently affected in the epidemic now treated of, ought to have been the organ towards which the major part of the treatment should have been directed, and when efficiently treated the fever should have decreased in a ratio corresponding to the restoration to health of that organ.

The study of all diseases is much facilitated by reducing their symptoms into distinct orders and generic groups, but when the causes producing such symptoms are vaguely and indefinitely understood, it is quite impossible that any nosological classification can be unerringly founded. Upon a strict examination of certain laws by which both animate and inanimate nature are ordered (when the operations are perfectly understood), we find that certain causes are always attended by certain results, and that certain results can only be produced by certain causes; for instance, we know that precise volumes of certain gases, when blended, produce water, and from the produced quantity of water the exact volumes of the employed gases can be abstracted; that a given degree of heat will produce a state of expansibility in a given body, precisely commensurate with the degree of intensity of such heat; and this experiment might be repeated *ad infinitum*, if the body subjected to such process in its physical properties remained in a perfectly unaltered condition. Hence, as we are ignorant of the exact causes of fever, so do their effects and phenomena appear a tissue of doubt and perplexity; and while the remote and proximate causes are invested with so much mystery, so will the systems and classifications be in a great measure founded upon mere arbitrary distictions. The great and grand discovery, then, to be made with regard to febrile disease, is manifestly a more correct knowledge respecting those primary conditions which produce their correspondent effects, and not so much with regard to the effect themselves.

There is, in the general features of continued fever, a sameness of character, when viewed as a whole, which might in a cursory manner almost lead us to infer that all its modifications and types originated in and depended upon

one common cause. All forms of the disease present grand characteristics, which seem manifestly to possess an identity of nature, and which might appear, from what has been said above, to argue powerfully in favour of the oneness of the cause by which they were produced; and the unity of origin of even all classes and species of fever has been contended for by many writers and some very able authors. But the common cause may be so essentially modified by unintelligible conditions, as to produce those variations in its character which are so frequently noticed; indeed so much so as might with propriety be termed positively different, for we see their effects are different, though still retaining a grand feature of sameness, on account of which nosologists have arranged them under one order. The opinion that all denominations of fever depend upon one cause, including even the exanthemata, intermittents, and remittents, is contended for by Southwood Smith, and others; and Bateman upholds the doctrine of unity of the cause of fever, when he says,—"All the attention which I have been enabled to give during the last fifteen years, to the passing phenomena of fever, and more especially the observations which I have made while several hundred cases have been presented to my view within the compass of a few months, have tended more and more to impress me with the conviction of the identity of that disease under all its classifications *." This opinion of Smith, Bateman, and others, I shall endeavour by the adduction of facts in the sequel to disprove.

A minute and authentic record of symptoms during any real febrile visitation is most desirable, and it was this mode of studying disease which gave to Hippocrates a distinguishing superiority over his contemporaneous practitioners of the healing art; for instead of seeking to give some far-fetched hypothesis, he rather contented himself with a correct delineation of nature; the only method in medicine calculated to ensure valuable results. In the establishment of any new theory, nay, in that of an isolated fact in any branch of science, much labour in the examination of all such considerations as might militate against the commonly received opinions, is absolutely requisite, and the accumulation of facts and irrefragable data are quite indispensable; holding such in view, and finding that the fever now treated of presented unusual features, definite and substantial truths seemed highly indicated, and careful and attentive observance of its phenomena, from personal inspection, could alone lead to correct conclusions. "In writing the history of diseases," says Sydenham, "every philosophical hypothesis which hath prepossessed the writer in its favour ought to be totally laid aside, and then the manifest and natural phenomena of diseases, however minute, must be noted with the utmost accurary; imitating, in this, the great exactness of painters, who, in their pictures, copy the smallest spots and models in the originals *."

From observations founded on many hundreds of cases, the following considerations appeared as the most predominant features of the disease, and such as distinguished it from other forms of continued fever hitherto recorded; these are arranged under the subjoined heads:—

I. The invasion was very often unusually sudden, when compared with the ordinary mode of accession of the common forms of continued fever as witnessed in this country.

II. The rose-coloured measly eruption of genuine typhus was invariably absent. Petechiæ were observed of a dark purplish livid hue, never elevated, but clearly circumscribed.

III. There was generally absence of the injected ferretty-looking eye.

IV. The disease almost always resolved itself by a well-marked and copious diaphoresis, this taking place most generally upon the seventh, but varying from the fourth to the ninth day from the invasion.

V. The head symptoms were comparatively slight, and less severe than are commonly observed in typhus; the brain and its membranes were not so often found the seat of lesion.

VI. A very great majority of the cases had pain and tenderness over the hypochondriac and epigastric regions, and sickness and vomiting were almost constant symptoms at the commencement of the disease.

VII. There were an unusual number of jaundiced or "yellow cases," and with these were often associated

* Bateman "On Contagious Fever," p. 22.

* Swan's Sydenham. Author's Preface, p. 4.

a dark coffee-grounds looking (and in some instances black) vomit.

VIII. There was almost universally a recurrence of the primary symptoms during the patients' convalescence, and such relapse sometimes took place to the third or even fourth time.

IX. The pulse might be extremely high, without causing any alarm as to the result of the case.

X. The tongue was generally covered (except at apex and edges) with a thick pasty dirtyish yellow white-looking coat, mostly moist, at least seldom so dry as we frequently observe it in genuine typhus.

XI. Pregnant women at all periods of gestation invariably aborted.

XII. The kidneys were often the seat of diseased action, and in some instances death appeared to be induced by the absorption of urea, which was discovered in the serum infiltrated into the ventricles of the brain, and this product was also found in the blood both during life and after death.

XIII. Muscular and arthritic pains were exceedingly common during convalescence.

XIV. A peculiar form of ophthalmitis not unfrequently supervened during convalescence. (See Sequelæ.)

XV. The mortality was very small.

Such appeared in my own humble opinion to be the most distinguishing diagnostic marks of the distemper, and which give to the disease, when viewed as a whole, a peculiarity of character similar to which no epidemic upon record has manifested a positive resemblance.

TABLE No. V.*

*This table forms an analytical detail of the chief particulars respecting* 80 *cases*; 40 *males, and* 40 *females.*

| | | |
|---|---|---|
| No. whose ages are under 20 years | 20 | 1 in 4 |
| No. whose ages are above 20 and under 40 | 40 | 1 in 2 |
| No. whose ages are above 40 and under 60 | 18 | 1 in 4·44 |
| No. whose ages are above 60 | 2 | 1 in 40 |
| Resided in Cowgate | 17 | 1 in 4·7 |
| Resided in Canongate | 14 | 1 in 5·7 |
| Resided in Grass Market | 7 | 1 in 11·42 |
| Resided in West-Port | 7 | 1 in 11·42 |
| Resided in different Wynds | 21 | 1 in 3·8 |
| Temperate and moderately so | 64 | 1 in 35 or 1 in 1¼ |
| Intemperate | 16 | 1 in 5 |
| Married | 40 | 1 in 2 |
| Unmarried | 40 | 1 in 2 |
| Contagion assigned as cause | 28 | 1 in 2·85 |
| Wet assigned as cause | 17 | 1 in 4·7 |
| Cold assigned as cause | 13 | 1 in 6·15 |
| No cause assigned | 22 | 1 in 3·63 |
| Average of days from seizure to admission | *4·7 | |
| Average of days from seizure to crisis | 6·2 | |
| Number of deaths | 4 | 1 in 20 |
| Mean frequency of pulse at admission | 98·1 | |
| No. requiring bleeding at arm | 7 | 1 in 11·42 |
| No. requiring local bleeding by leeches | 22 | 1 in 3·63 |
| No. of relapses | 72 | 1 in 1·11 |
| No. in full employ | 26 | 1 in 3·17 |
| No. in partial employ | 34 | 1 in 2·35 |
| No. out of employ | 20 | 1 in 4 |
| No. of yellow cases | 7 | 1 in 11·42 |
| Complications† | | |

[To be continued.]

* Tables No. V. and VI. according to the numeration in the first arrangement, being considered by the editor as too large for the pages of the journal, the above has been compiled, with the intention of giving the matter in a more condensed manner.

* Of the 40 male cases, the average is 6 3-10th days; and of the females 3 1-10th days.

† Out of the 80 patients 5 had acute pleuritis; 1, acute pneumonia; 1, nephritis; 3, a dysenteric attack; 2, singultus in a severe degree for a week; 1, had delirium tremens; and 1 was during convalesscence removed to the medical wards, and died of Bright's disease.

## THERAPEUTIC EFFECTS OF ANIMAL HEAT.

AUBREY relates the following story of Dr. William Butler (temp. James I.) which he says was the reason of his being first taken notice of. A clergyman in Cambridgeshire, by excessive application in composing a sermon which he was to preach before the King at Newmarket, had brought himself into such a way that he could not sleep. His friends were advised to give him opium, which he took in such large quantity that it threw him into a profound lethargy. Dr. Butler, who was sent for from Cambridge, upon seeing and hearing his case, flew into a passion, and told his wife that she was in danger of hanging for killing her husband, and very abruptly left the room. As he was going through the yard on his way home, he saw several cows, and asked the lady to whom they belonged. She said, to her husband. "Will you," says he, "give me one of these cows if I can restore him to life?" She replied, "with all my heart." He presently ordered a cow to be killed, and the patient to be put into the warm carcase, which in a short time recovered him.—*Granger.*

# MEDICAL GAZETTE.

FRIDAY, MARCH 20, 1846.

We lately had occasion to notice in this journal, a small pamphlet by Dr. Corrigan, "On Famine and Fever as cause and effect in Ireland."* The facts referred to by the author of this essay are, judging from the energetic measures now proposed to avert an impending calamity, likely to acquire a fearful interest. It appears from an announcement recently made by Sir James Graham, that the Commission appointed to watch the advance of distress arising from the failure of the potato-crop in Ireland have officially reported that fever is prevailing to an alarming extent in almost every county, and that there is every prospect of its becoming general throughout Ireland. In order to mitigate the evils which are likely to arise from the diffusion of Epidemic fever, a Bill has been introduced into the House of Commons to make temporary provision for the medical treatment of destitute persons. In the first place a Board of Health is to be established, consisting of five unpaid Commissioners. It will be in the power of this Board to recommend the appointment, where it may appear necessary, of a paid medical officer in every Union, whose duty will consist in seeing that all proper sanatory measures are carried out in the treatment of the sick poor.

Power is also given to this Board to compel the guardians of every Union, to fit up when requisite a fever hospital unconnected with the workhouse, and to provide medicine and all other necessaries for the treatmeut of the sick. Reports are to be regularly made by the Board of Health to the Government, and the act, which is limited to Ireland, is to continue in force only until September, 1847.

While all will approve of the motives of those who have originated this measure, and admit that good is likely to attend the operation of such an act, it must not be forgotten that the *fons et origo mali* is the want of food. Dr. Corrigan, as we have elsewhere had occasion to remark, has made out a strong case in favour of the supply of *food* as well as medicine from the dispensaries. The latter may be necessary to subdue the attack, but the former in his opinion will prevent it. He does not appear to have much faith in Acts of Parliament, which are based simply on the enforcement of hygienic rules with respect to the sick, unless these be accompanied by an ample supply of nourishment to those who are unaffected. His remarks appear to us to have such an immediate bearing upon the measure now before Parliament, that we shall here proceed to quote them:—

"When the epidemic of 1826 appeared, an Act of Parliament was put in force, suggested by the Board of Health, which obliged each parish to appoint persons denominated officers of health. Their duties were to see that all nuisances, as collections of manure, &c., were removed, and that the habitations of the poor were whitewashed. Much money was expended in this way; in cleaning out depôts of filths for those who were too indolent to do it for themselves, and in whitewashing rooms for poor creatures who then had not the price of fuel to dry their wet walls.

"Those measures of cleansing coming from a Board of Health, and enforced by an Act of Parliament, had an imposing effect; but a little reflection

* Page 385.

would have convinced any one who had independence enough to think for himself, that it was very improbable that a dunghill or slaughter-yard which had lain for several years quiescent, should have suddenly taken on and retained the new power of elaborating fever, or that the walls of a weaver's apartment, in which for successive summers one or more families had lived in good health, should have acquired in the midst of winter, the power of vomiting forth contagion. I would be far from undervaluing the advantages of cleanliness; but it is plain, that all those matters over which the officers of health were given control, had equally existed for an indefinite period of time, and without being accompanied by any epidemic;—and that expending much time and money in their removal, and directing the principal attention to them, was objectionable for two reasons. First, it was nearly an useless expenditure; and, secondly, while presenting an appearance of active exertion, it drew away attention from the real cause of the evil. The Act of Parliament took away all discretionary power from the parishes; they might spend as much money as they pleased in whitewashing rooms and staircases, but they could not lay out one penny to save a fellow-creature from starvation.

"To sum up: epidemic fever in Ireland cannot depend on climate or season, for it has raged unchanged through every variation, through heat and through cold, through wet and through drought; it cannot depend on changes in the condition of the poor as regards cleanliness, ventilation, or temperance, for their habits in these respects never varied much during the period of time through which the epidemic prevailed; it cannot depend on contagion alone, for contagion must have been generated by fever, or being once generated must have never ceased to spread, until itself was extinguished from a want of subjects.

"Epidemic fever may be attributed to a mysterious something, an occult quality in the atmosphere; but it would be bad philosophy to pass by a visible and palpable cause, and ascribe an occurrence to some agent, of the very existence of which we have no proof. We find *famine* invariably preceding or accompanying epidemic fever (it matters not how other circumstances vary), and *famine*, therefore, we are justified in marking out as its great cause."

Whether all persons will or will not adopt the views of the writer, they must give him credit for having shown in forcible language, that there is a very close connection between famine and fever, and that if we wish to arrest the progress of the latter we must provide against the occurrence of the former. Although the Government has not incorporated in the sanatory measure now brought forward, any plan for the supply of food to the famishing population of Ireland, it is satisfactory to learn, from the statement of Sir James Graham, that this part of the case has not been overlooked; and that without giving rise to the worst form of mendicancy, a sufficiency of food has been already provided to meet the present alarming emergency. By these means, energetically carried out, we trust that the progress of the fever will be arrested, and that we shall not have a realization of the evils which attended the epidemics of 1818 and 1826. In the epidemic of 1818, it is stated that no less than one million and a half of the Irish population suffered from fever!*

* The above remarks, as well as the extracts from Dr. Corrigan's pamphlet, were in type before the occurrence of the debate in the House of Commons on Wednesday evening last.

## Reviews.

*Lectures illustrative of various subjects in Pathology and Surgery.* By Sir Benjamin C. Brodie, Bart., F.R.S. 8vo. pp. 411. London: Longman. 1845.

The author of these lectures is evidently strongly impressed with the belief which must always, year by year, gain increased weight in the mind of every surgeon, as the stern realities of practice enforce upon his attention the still highly imperfect state of the healing art, and the vast responsibilities which attend its administration—that all medical knowledge can be considered uesful only in so far as it tends to throw light upon the treatment of disease; and that, however enthusiastically the practitioner may have followed the more abstract pursuits of the medical theorist, a time must arrive when the whole of his accumulated lore will appear worthless in his eyes, if he cannot draw from it the means of relieving physical suffering and of staying morbid actions.

Sir B. Brodie has, therefore, rendered his clinical lectures—what all clinical lectures should be—clear, impressive, and practical expositions of curative measures, in which all the most important features of the subject are plainly set forth, without being unnecessarily encumbered with elaborate details which would only distract the attention of the learner from the main question, and in which there is merely just sufficient theory to show that the practice recommended is founded upon scientific principles. The chief subjects in pathology and surgery discussed in the present volume are the Effects of Strangulation; Death from Drowning, and Death from Lightning. Cases of Cysts containing Watery Fluid, apparently connected with the Liver. Ununited Fractures. Sero-cystic Tumors of the Female Breast. Varicose Veins and Ulcers. On the cases of Scirrhous Tumors of the Breast which require an Operation. Corns and Bunions. The Administration of Mercury in Cases of Syphilis. Tic Douloureux, Fatty Tumors, Mortification, and Chronic Abscess of the Tibia. It will thus appear that Sir Benjamin's work presents nearly as great a variety in its contents as do the "Medical Notes" of Dr. Holland, or the "Surgical Observations" of Mr. Abernethy.

A considerable proportion of the discourses contained in this volume have long been familiar to the profession, several having appeared in the pages of the Medical Gazette; but they are not, on that account, the less acceptable in their collected form; and we shall be happy to find that the author has rendered his course complete by the publication of a second series. A brief sketch of the leading features of this work will, we trust, be interesting to our readers; but every page of its contents will fully repay a careful perusal. The lectures commence with two introductory discourses upon the Studies required for the Medical Profession, and on the Duties and Conduct of Medical Students and Practitioners: each of these lectures is fraught with sound knowledge and excellent precept, but especially the latter; every argument which it conveys should be indelibly stamped upon the memory of each aspirant who determines to strive manfully and worthily for the honours of a successful medical career. The honest, kindly, and high-toned sentiments which characterise this discourse, are equally honourable to the judgment and to the feelings of the writer. The persevering and well-intentioned student, who grows weary with the laborious task which lies before him, and apprehensive that professional success will never come to reward his unaided toil, will gain renewed ardour as he peruses the arguments by which one of the most experienced surgeons of the day maintains that he "has undertaken nothing which energy and perseverance, and upright and honourable conduct, will not enable him to accomplish;" and "that no one who uses the means proper for the purpose, will fail to succeed sufficiently to satisfy an honourable ambition;" while, on the other hand, the negligent student, and the practitioner who is forgetful of the high obligations of his calling, can scarcely avoid confessing, as he rises from the perusal of these strong and dignified arguments in condemnation of lax morality, and in favour of good faith, that there has arisen in his mind an anxiety to pursue, in future, a wiser and a better course.

The lectures on *Strangulation* and *Drowning* are extensively illustrated

by the author's views upon the physiology of respiration. The leading facts which they contain have appeared in the work on Medical Jurisprudence, by Paris and Fonblanque, taken from the notes which the author communicated to Dr. Paris. Sir B. Brodie is convinced that "strangulation causes death by closing the trachea, and preventing respiration; and that whatever other effects it produces are of secondary importance to this." He also adduces numerous facts in proof of the opinion that a person cannot recover who has been completely submersed for more than five minutes. (This opinion was always very strongly advanced by Dr. Monro *Secundus*). And he quotes authorities who show that the accounts of divers who are stated to remain under water for very long intervals are altogether fabulous—that such individuals are not capable of remaining submersed for longer than a minute and a half, or at the utmost for two minutes. The author has become convinced, from observation and experiment, that where death is produced by lightning, the electric shock does not primarily destroy the irritability of the muscular fibre, or affect the action of the heart; but that itsinfluence, "in the majority of cases, is expended chiefly in disturbing or destroying the functions of the brain. "The treatment necessary to counteract the effects of the injury may be comprised in a few words:—expose the body to a moderate warmth, so as to prevent the loss of animal heat, to which it is always liable when the functions of the brain are suspended or impaired, and inflate the lungs, so as to imitate natural respiration as nearly as possible, whenever the animal breathes with great labour or difficulty, or when he has ceased to breathe altogether by his own efforts." We must confess that we should be rather unwilling to employ artificial respiration in any case where the breathing was merely laborious; and we apprehend that little hope of restoration could be entertained in an instance where a person stricken by lightning had ceased to breathe by his own efforts. Still, in such cases, the plan recommended should, of course, be assiduously employed.

In his remarks upon *Cysts containing Watery Fluid apparently connected with the Liver*, the author adduces three or four instances where fluctuating tumors formed in the region of the liver, and, upon being punctured, discharged a considerable quantity of clear colourless fluid, resembling water in appearance, undergoing no coagulation when boiled, and leaving the smallest possible residuum of animal matter. The author has, fortunately, not had an opportunity of confirming his diagnosis; but he considers that the disease consists merely in the growth of a simple cyst from the liver; and this opinion is confirmed by the circumstance of having not unfrequently noticed in dissection, a membranous cyst, projecting on the convex surface of the liver, and containing a clear watery fluid. The cysts to which he alludes are generally of the size of a marble. "The largest which he has met with in the dead body may have contained from one to two ounces of fluid; but there is no reason why such a tumor, being once formed, should not attain any magnitude." We lately observed a small cyst of this kind imbedded in the substance of the liver upon its convex surface; its walls were simply membranous, and its contents perfectly limpid. There was no trace of hydatid structure either here or in any other part of the body. The author does not believe that any of his patients suffered from hydatid disease, as the discharge contained no *debris* of hydatids. Besides, in a case of hydatids, according to his experience, the evacuation of its contents is always followed either by suppuration of the cyst, or by an immediate re-accumulation of the fluid, whereas in none of these cases was the watery fluid reproduced. In one case, however, the evacuation of its contents appears to have been followed by suppuration in the tumor; pus was discharged by the bowels, and continued to pass away until a membranous cyst, about the size of an orange, was detected in one of the evacuations, when the discharge ceased and the patient rapidly recovered. The author believes that the inflammation and suppuration consequent upon the puncture had been followed by adhesion of the cyst to the neighbouring parts, that the abscess had burst into the colon, and that the cyst had afterwards been discharged through the ulcerated opening. This explanation involves considerable difficulty, and we

cannot help suggesting the possibility that the membranous sac passed from the bowels was in reality the parent cyst of an hydatid cavity.

The lecture on *Ununited Fractures* contains many useful practical facts, several of which we have marked for future insertion. The plan of treatment most approved of by the author is that proposed by Mr. Amesbury—of keeping the bones in a state of most complete repose, by means of a suitable application of splints and bandages; at the same time that the broken extremities are kept firmly and steadily pressed against each other. Sir B. Brodie has attended three cases with Mr. Amesbury, in which this plan succeeded perfectly; and, in two other cases of his own, it has been attended with equal success: two of the five were cases of ununited fracture of the humerus, two of the bones of the fore-arm, and the other of the femur. In some other instances the plan has failed.

In the lecture on *Sero-Cystic Tumors of the Female Breast*, various forms of disease are referred to, all of which appear to be more or less allied in structure to the "hydatid breast" described by Sir A. Cooper. A greater or less number of membranous cysts, which appear to be formed by a dilatation of portions of some of the lactiferous tubes containing serum, which is at first of a yellow colour and transparent, but afterwards becomes of a darker colour and opaque, appears to be the principal character of this disease in its earliest stage. Afterwards, morbid growths are generated from the inner surface of one or more of these cysts, projecting into their cavities; these masses, the author considers, are composed of albumen or fibrine, which becomes organized (it does not appear that these growths have been submitted to microscopical examination). In advanced stages of the disease, the cysts may become completely filled up with the solid growth, so that their cavities are obliterated; and if one of the membranous cysts burst, or be artificially laid open, the fibrinous excrescence protrudes externally, in the form of a fungus. In this last stage of the disease art furnishes no other means of cure than the removal of the affected parts by a surgical operation.

In the earliest stage of the disease, however, the author considers that the excision of the cysts is not advisable; he has, in a considerable number of cases, succeeded in removing, or of greatly reducing the growth, by the continued employment of a stimulating embrocation, and occasionally of blisters. These remedies do not appear to be of any service until the inflammation produced on the surface of the skin has in some degree pervaded the substance of the breast itself. Before proceeding to employ this course of treatment, it appears necessary to ascertain the nature of the tumor by the introduction of a grooved needle.

The author is now unwilling to employ caustic, the subcutaneous section, or other active measures, for the cure of *Varicose Veins of the Legs*, as he finds, that when the principal cluster of veins becomes obliterated by these means, others are formed in its vicinity. He appears to rely principally upon the application of firm and even pressure.

The lecture upon *Scirrhous Tumors of the Breast which require Operation*, is of great practical value, and we regret that our space will not permit us to quote very largely from the arguments which it contains. Where the tumor has no distinct boundary, and where there is a conversion of the gland of the breast into the diseased structure—where the skin is in any way contaminated by the disease—where the nipple is retracted—where the skin is drawn or tucked in over the tumor, or where the axillary glands are involved;—the author believes that the operation of excision is inadmissible if performed with a view to an ultimate cure. Nor is the operation at all advisable in aged persons, where the tumor is quiescent. The author considers, that when the tumor appears on the surface of the breast, and is detached from the gland, and also where the disease has originated in, and is confined to, the nipple, excision offers a fair prospect of success. The lecture is closed with some interesting cases in illustration of the principle that it may sometimes be worth while to resort to the operation, merely with a view to give the patient a respite, to relieve her from present suffering, or with a view to prolong her life for a limited period, or to render the circumstances which attend the fatal issue of the case less appalling than would probably be the case if the

external disease were permitted to proceed unchecked.

Most of the principles contained in the lecture on the *Use of Mercury in Syphilis*, are at present acted upon by practitioners; but the student will find it replete with lucid and valuable information.

The following extract embodies the leading principles of a course of treatment which we are convinced is most powerfully efficacious in the relief of a very large portion of those cases of facial neuralgia which are independent of organic disease in the brain or nerves:—

"In those cases in which the disease has an intermitting and periodical character, you may always relieve it, as you may all other cases of intermittent and periodical character, by the exhibition of quinine, bark, and arsenic. But, then, if you give quinine, it must be in rather large doses; sometimes in very large ones. I saw, this very morning, a gentleman who had formerly a nervous pain in the back, almost as bad as tic-douloureux in the face. It was intermittent and periodical. I told him, when he consulted me about it, that most probably the sulphate of quinine would cure him. He took ten grains daily without benefit; he took twenty with little benefit; and was not cured till he took half a drachm daily. Whether he had been supplied with genuine unadulterated quinine I will not venture to say; but, at all events, he must have taken the medicine in very large doses. The combination of bark and arsenic, also, is an excellent remedy in these cases of intermittent and periodical disease; but I generally prefer giving quinine first, it being a more innocent medicine, requiring no watching, and the use of it not being subject to the inconveniences which belong to that of arsenic." (p. 261.)

We are perfectly satisfied, from our own observation, of the almost specific power of this plan of treatment in removing the agonizing paroxysms of periodical neuralgia. Bark, if prescribed alone, requires to be given in such very large doses that the stomach is liable to refuse the remedy before its desired effect upon the system has been obtained; but even in the most aggravated cases we have never found the disease resist the action of *large* doses of quinine, either taken by itself or in conjunction with moderate doses of Fowler's solution. The concluding chaper of the work contains several highly interesting cases of *Chronic Abscess of the Tibia*. In this disease the matter may remain pent up for several years within a small cavity, lined with a vascular and highly sensitive cavity in either extremity of the bone. At first there is merely considerable enlargement of the epiphysis, and constant, or occasionally intermitting, pain in the part, generally of a moderate character, but every now and then excruciating in the extreme. The joint usually long continues unaffected by the disease, but after a time the articular surfaces are liable to suffer. In the first case of this description that came under his care, Sir B. Brodie amputated the limb. He has since trephined the bone in several cases with immediate relief, and apparently, in all cases but one (where the patient's constitution was bad, and erysipelas supervened), with permanent success.

We attach a very high value to Sir Benjamin Brodie's Clinical Lectures; their style is clear, demonstrative, and unaffected, decided and energetic, but altogether free from dogmatism or over confidence: they are strictly practical, and much of the information which they contain will assuredly do the reader and his patients good service in time of need. We should be glad to find that every hospital physician and surgeon in London had resolved to deliver lectures upon this plan throughout the whole of the year; or at least during the entire winter session. But the *clinique*, so justly valued in France, has never been sufficiently appreciated by English lecturers. For our own part, had we to commence our education over again, we would rather attend one clinical lecture, delivered by an experienced surgeon, than listen to half a dozen discourses on the theory and practice of surgery by the same authority.

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*Ueber die Darstellung und Prüfung Chemischer und Pharmaceutischer Präparate.* Von Dr. G. C. Wittstein.

*On the preparation and examination of Chemical and Pharmaceutical compounds.* By Dr. G. C. Wittstein, with a Preface by Dr. J. A. Buchner, Sen. 8vo. pp. 690. Palm, Munich, 1845.

We take blame to ourselves that we have not been able, before the present

occasion, to introduce this excellent practical work to the notice of our readers. For many years Dr. Wittstein has been a contributor on pharmaceutical and chemical subjects to the well known *Repertorium* of Buchner, and we have in the volume before us, a selection of the facts thus published, with such additions as the present state of science, and the nature of the work, demanded. The preface, written by Dr. Buchner, speaks most highly of the industry and ability of the author; and from the examination which we have made of his labours we are inclined to think that his merits have not been overrated. This must not be regarded as a mere pharmacopœia with imperfect descriptions of chemical processes, and a short list of tests printed in an appendix: on the contrary it is a complete treatise, answering to its title, and well adapted either for the use of the student in the laboratory, or for the advanced medical practitioner.

We learn from the author's statement, that he has introduced no tests or processes which he has not himself already tried experimentally. This alone is a commendable feature in a work of this kind; for nothing is more common than to find, in works of this description many processes published at second hand without trial, thus leading to the disappointment of those who have occasion to consult them. A complaint might perhaps be raised against the author that he has omitted in his descriptions numerous well-known processes: we, however, think this defect more than balanced by the fact that we have here what we believe to be a well-arranged series of pharmaceutical operations based on personal observation. The author raises no claim as a discoverer; he is satisfied with the merit of bringing together in a compendious form, and after due examination, the labours of others: there are, however, scattered through the pages, many new facts, as well as improvements on old methods of testing. The natural history, literature, properties, and medicinal uses of the substances, are, with few exceptions, omitted, as entirely foreign to the objects of the work.

The alphabetical order is adopted by the author in treating the subject; but there are most copious Latin and German indexes, and each compound of special interest in pharmacy, chemistry, or in the arts and manufactures, is systematically treated. The decompositions are rendered in equivalents with the appropriate symbols, oxygen being taken as 100, and the other numbers being based on the latest experimental researches of Berzelius. In order not to confuse the reader, Dr. Wittstein wisely confines himself to the use of integers. Want of space will not allow us to enter into any lengthened analysis of this volume; but in order to show the author's plan of treating his subject, we shall give briefly an extract from the article on prussic acid.

The synonymes of the acid in Latin and German are first given: we think it would have been easy, and certainly advisable, to have attached the names by which the compound was known in every European language. We then have the formula in symbols on the compound radical theory, as well as of the individual elements; and in regard to all hydrated acids, when the quantity of water is uncertain, the author employs the simple formula x H O, to indicate that the proportion is liable to vary. Two processes for the *preparation* of a solution of Prussic acid are described; — the one from the ferrocyanide of potassium and sulphuric acid, according to the formula of the Bavarian pharmacopœia, the other from cyanide of potassium, and sulphuric acid according to Liebig's process. The steps required for both operations are minutely detailed, and there are woodcuts showing the form of apparatus to be employed. We next have the chemical *decompositions* which take place, followed by the processes required for determining the *quantity* and *purity* of the acids. Two methods are recommended for the quantitative analysis, namely: 1st, by the red oxide of mercury; and 2d, by the nitrate of silver: these are accompanied by explicit directions and calculations, so that it is not easy for a novice to fail.

The impurities liable to be contained in prussic acid are stated to be sulphuric acid, Prussian blue,—a salt of potash, muriatic or formic acid,

The occasional admixture of muriatic acid is to be attributed to the accidental presence of some alkaline chloride. The best method of detecting muriatic, in prussic acid, is, according to Dr. Wittstein, to add to the acid some powdered borax free from chlorides, and to evaporate at a gentle heat. The residue should be dissolved in water strongly acidified with nitric acid, and nitrate of silver then added; a white precipitate, passing to a violet colour on exposure to light, will indicate the presence of muriatic acid. In this experiment the muriatic acid forms with the borax, chloride of sodium, while the prussic acid by its volatility is expelled. Pure carbonate of lime, which is not decomposed by hydrocyanic acid, may be used as a substitute for borax. Or, lastly, the prussic acid may be supersaturated with ammonia and carefully evaporated to dryness. If there be no residue the acid is pure; but if there be a saline residue, soluble in water and precipitable by nitrate of silver, this indicates the presence of muriate of ammonia, and therefore of muriatic acid. This result depends on the fact that the hydrocyanate of ammonia is easily volatalized with aqueous vapour at a heat at which muriate of ammonia remains fixed. Formic acid is discovered by treating the liquid with red oxide of mercury,—if present the oxide is reduced. The author does not mention Dr. Geoghegan's test, *i. e.* the iodo-cyanide of potassium and mercury, which is decomposed by all other acids except the prussic, and indicates the contamination of prussic with other acids by the production of a scarlet precipitate. We have, however, seen more than one specimen of pharmacopœial prussic acid precipitated by a salt of barytes when the presence of sulphuric acid was not indicated by the action of the iodo-cyanide.

Our readers will judge from this extract, the nature and objects of Dr. Wittstein's treatise. In our opinion it is a very useful addition to pharmaceutical literature; and we think the compilers of our national pharmacopœia might in preparing a future edition of that work, profit by referring to it.

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## Proceedings of Societies.

### ROYAL MEDICAL & CHIRURGICAL SOCIETY.

March 10, 1846.

Dr. Babington, F.R.S. Vice-President, in the Chair.

*An Account of a Case of Partial Double Monstrosity (Ischiopage Symelien of Geoffroy Saint Hilaire, Ueteradelphia of Vrolic).* By William Acton, Surgeon to the Islington Dispensary.

The subject of the monstrosity is a healthy male child, a native of Portugal, six months old, brought to this country for exhibiting. The parents, and a brother and sister, exhibited no peculiarity of any kind. The infant is lively and good-looking, and well-proportioned both in the upper and lower extremities. The peculiarities are confined to the parts below the umbilicus. To the right and left of the mesial line are two distinct penes, each as large as the penis of a child of six months. Water passed from both organs at the same moment. Each penis is provided with a scrotum, the outer half of each scrotum containing one testicle: the inner half of the scrotum is far removed from the outer, and the two inner halves appear like another scrotum between the two penes. Between and behind the legs of the child there is another limb, or rather two lower extremities united together in their whole length. The upper part of this compound limb is connected to the rami of the pubis by a short narrow stem. Immediately beyond this stem, and concealing it, the compound limb assumes a size as large as the combined natural thighs. The leg is of comparative small size, though larger than either of the healthy legs, and terminates in a double foot, with the sole turned forwards, and provided with ten toes, of which the two outer on each side are webbed. The anus is in its usual situation. Viewed posteriorly, the compound limb assumes a roundness and fulness equal to the buttocks of a young child, and a slight depression is observed, as if for the anus. The compound limb is motionless; the upper portion alone appears endowed with sensibility, and its vitality seems low.

The author states that he has consulted most of the original works referred to by authors who have described this species of monstrosity, but he has been unable to find exactly analogous cases, or any description or plate of two penes on one body, as in the case before the Society. He believes that this instance of double penes does not depend upon a division of one organ. The

distance at which they are placed one from the other, and the existence of two canals by which urine is passed at the same moment renders this little probable.

With reference to the question of removal of this compound limb, the author considers that every circumstance is in favour of an operation. He notices the health of the child, the narrowness of the medium of communication, which contains probably no important part, but especially the low vitality of the limb; as the history of partial double monstrosities shows, that any, however slight, scratch or contusion heals slowly, and generally ends at first in the death of the part, and subsequently of the child. If the infant escapes this source of danger, its system is found incapable of supporting this additional limb, and the child perishes from debility. He thinks, therefore, that an operation will be necessary to give the child a chance of arriving at puberty, and that, in the absence of any one counter-indication, the sooner this is performed the better for the security of the child.

The parents brought the subject of this curious monstrosity to the rooms of the Society, where it was examined by the fellows present previous to the meeting.

Dr. Babington observed, that in Mr. Acton's paper the only point for discussion seemed to be the propriety of an operation.

Mr. Lloyd did not agree with the author of the paper with respect to the propriety of removing the supernumerary limb in this case. Recollecting how small a quantity of blood might destroy so young a child, and looking at the size of the limb, which, no doubt, was supplied by a considerable vessel, he could not see how hæmorrhage could be prevented from going on to a fatal termination. Mr. Lloyd then alluded to the danger of hæmorrhage from the removal of nævi; he thought that in this case peril would also arise from the division of a great number of vessels at once.

Mr. Acton was afraid that Mr. Lloyd had had an imperfect view of the child, and had not distinctly heard the paper; he should, therefore, refer to some points, in order to show the facilities which existed for the operation. The toes of the lower compound limb were blue, showing the languor of the circulation in them, notwithstanding all the precaution taken by the parents. It was found, in all similar cases, that very slight abrasion resulted in ulceration difficult of cure, and frequently terminating in death of the part, and, sometimes, of the child. Even if the infant were free from this contingency, the powers of one individual were insufficient to nourish the parasite, and atony ensued. He was still of the opinion, after careful and repeated examinations, that an operation should and could be performed. The connexion between the two limbs consisted of a stem about as thick as a finger at the rami of the pubes. No pulsation of large vessels was to be detected, nor any vital organ which might be injured by the operation. Hæmorrhage, from the position and small size of the stem, might be readily controlled. This case offered more chances of success, and shewed the greater necessity of an operation, than any on record.

*Account of a Case in which the Corpus Callosum, Septum Lucidum, and Fornix were imperfectly formed.* By James Paget, Esq. Lecturer on General and Morbid Anatomy, and Warden of St. Bartholomew's Hospital.

The case here related is that of a servant-girl who died with pericarditis. She had displayed during life nothing very remarkable in her mental condition. She was of a good moral character, trustworthy, and fully competent to all the duties of her station. She had a good verbal memory, and as much knowledge as is commonly acquired in such slender education as she had received. She was good-tempered, happy, and very heedless. Her mother was insane while pregnant with her, and in some previous and following gestations.

The middle portion of the fornix, and the whole of the septum lucidum, were absent; and in the place of the corpus callosum there was only a thin fasciculated layer of white nervous matter 1·4 inches in length, but of which the fibres (minutely described in the paper) extended into all those parts of the brain into which those of the healthy corpus callosum can be traced. Behind this imfect corpus callosum the optic thalami, the middle commissure (which was very large), the posterior commissure, and the pineal gland, lay exposed after the removal of the velum. The lateral parts of the fornix and the rest of the brain were quite healthy.

After relating the particulars of the only other cases of complicated deficiency of the corpus callosum which he can find recorded, with histories of the patient during life (the cases of Reil, Mr. Solly, and Mr. Chatto), the author points out some considerations illustrated by them, concerning the anatomy, development, and physiology of this organ. He shows that it is probable that, in the perfect corpus callosum, the fibres are not at all transverse, but that some of them pass from the anterior part of one hemisphere to the posterior part of the other.

He shows, also, the probability that in its early embryonic state, the corpus callosum, though very small, may be in connection with all the parts which it afterwards

more evidently connects; and that the development of the septum lucidum is not dependent on that of the corpus callosum, though its situation may be, since its analogues are found in all those cases of defect connecting the hippocampus with the inner margin of the cerebral hemisphere, and forming the inner wall of the lateral ventricle.

And, in reference to its physiology, he endeavours to prove from these cases, and from other considerations, that its functions must be connected with the highest operations of the mind; since it appears that when it is very deficient, or even absent, the mind may possess a moderate or average power and capacity of knowledge, and may be exercised in all the ordinary acts of persons in an inferior station of life; and that, in the like case, all the lower functions of the nervous system are perfectly discharged.

Mr. Solly expressed himself in high terms of Mr. Paget's paper, and of the admirable manner in which the case had been drawn up. In the present uncertain state of our knowledge respecting the functions of different portions of the brain, this case was one of deep interest. He (Mr. Solly) did not question that the commissures of the brain possessed the same conducting powers as the nerves, although what kind of force they conducted, it would be difficult to say. He thought that the office of the great transverse commissure was to enable the corresponding hemispherical ganglia on the opposite sides of the mesial line to compare the impressions brought to them by the nerves of sense. The connexion of different portions of the hemispherical ganglia by means of the longitudinal commissure, favoured the opinions of those anatomists who considered that this ganglion was not a single centre of power, but was composed of several, which performed different offices. The consentaneous absence of the septum lucidum and body of the fornix, was of interest to him in respect to that anatomical fact, a fact which he thought he had been the first to notice, though he thought it had been too much neglected by subsequent writers—namely, that it was not a mere layer of medullary matter, forming a wall between the two ventricles, but that it consisted of fibres in a longitudinal direction, going from the anterior portion of the brain to the body of the fornix, and thus forming an essential portion of the longitudinal commissure system. He thought the fornix did not consist of transverse fibres, but that these fibres which were seen, belonged in reality to the corpus callosum beneath.

Mr. Coote observed, that comparative anatomy proved that in animals the corpus callosum made a progressive advance with the supra ventricular accumulations of white matter; in birds, where it was absent, the hemispheres were almost entirely composed of grey matter. The history of its development was still involved in obscurity. Tiedemann assigned too late a time for its first appearance; he (Mr. Coote) had seen traces of it in a fœtus of about the fourth month of utero-gestation. Mr. Paget's interesting case rather corroborated the opinion that the higher intellectual faculties were connected with the perfection of the commissural system. The girl, so far from being of even ordinary capacity, was scarce able to read, and the art of writing was beyond her. The abrupt, flighty manner, and neglect of cleanliness, the inability to make a common purchase, combined with the fact of the mother's insanity, certainly warranted the supposition that the weak points of intellect already manifested, might, in after life, have driven her to a mad-house. Mr. Solly, in alluding to the structure of the fornix, denied the accuracy of Professor Owen's account of the transverse fibres called the lyra. He (Mr. Coote) believed that the Professor was in every point correct; these fibres belonged essentially to the fornix, to form a transverse commissure to the hippocampal lobes. In the septum lucidum, he had made out vertical as well as longitudinal fibres, and he would be glad to know if Mr. Paget had examined the connection between the corpus callosum and the fornix, in the case now before the Society.

Mr. Paget did not think that there was any just ground for supposing that his patient would have ever been the subject of insanity. There was no remarkable character in her mind, and it was difficult to say, if they had been tested, at what point her reasoning powers would have failed. They served her sufficiently in her occupation of a servant, and nothing worse could be said of them, than that she did not exercise them in any high intellectual pursuits; neither was it the custom of persons in her station to do so, and it could not be fairly said, then, because she did not attempt such persuits, that she had less capacity than persons generally in her station of life. Two points only in her mental condition seemed to require particular notice; one was the fact of her possessing a good memory, though some most acute reasoners had persuaded themselves that the functions of the corpus callosum were as a centre for reference, in which the organ for memory should lie. The second point was her remarkable want of forethought, which was to such an extent as would lead to the suspicion that the faculty of judging of the probable events of things, was that to which the corpus callosum was a necessary minister. With reference to the septum lucidum, many

of its fibres were doubtless longitudinal; but it possessed, most probably, others which were almost entirely vertical, since it acted as a connecting band between the hippocampus and fornix, on the one hand, and the inner margin of the cerebral hemisphere on the other. Thus it formed the inner wall of the lateral ventricle, whatever might be its other relations. It could not be looked upon as a commissure peculiarly belonging to the corpus callosum, inasmuch as whether there be a corpus callosum or not, its analogues existed. He differed from Mr. Solly with respect to the transverse fibres forming the lyra, and believed that these really belonged to the fornix, for the corpus callosum was strictly the commissure of the cerebral hemispheres; it was developed commensurately with them; it was absent in marsupials and the lower vertebrata; it coincided with the reduction of their hemispheres; and its lateral connexions were always with the substance of the extra-ventricular masses of the hemispheres. In marsupials, however, the transverse commissure, which was the analogue of the lyral n other mammalia, was not connected at all with the extra-ventricular parts of the hemispheres; and its size was proportioned to the parts which it was connected—namely, with the hippocampal convolutions, and with the fornix,

Dr. Babington added his testimony to that of Mr. Solly, to the high value and excellence of Mr. Paget's paper. He expressed his surprise that the corpus callosum should be supposed by any one to minister to the higher functions of the mind, at least if considered as an originator of those functions; since he believed it to be composed of white fibrous matter, without any admixture of grey granular substance, and consequently, to be only a conductor and not an originator of any functions whatever. He had recently made a minute examination of the structure of the corpus callosum in man, and found, what was not described in books, that it was composed, not of mere independent fibres, but of vertical laminæ, like the leaves of a book placed in opposition io each other, and extending transversely into the hemispheres on either side, a few fibres perforating these at right angles, and thus running longitudinally through them. Mr. Paget, he believed, confirmed the general accuracy of this description.

Mr. Paget thought he had advanced in the paper the same views which Dr. Babington had expressed. The corpus callosum was certainly lamellar in structure, and proved that it could not be a nervous centre in the common reception of the term, for it was composed only of fibres such as in other parts had no more important office than that of the conduct of impressions.

# Hospital and Infirmary Reports.

## CLINICAL REMARKS

ON

*Cases treated in the Westminster Hospital.*

By Benjamin Phillips, F.R.S.
Assistant-Surgeon.

*Severe fracture of the Skull without concussion, followed by symptoms of compression of* 36 *hours duration, and complete recovery.* — Reported by Mr. Frederick Wildboke, M.R.C.S.L. House Surgeon.

William Webdale, æt. 40, farrier, a man of sober steady habits, was admitted into Henry Hoare Ward, under the care of Mr. Phillips, on the 13th of December, at 9 o'clock P. M. with a frightful lacerated radiating wound of the forehead. The frontal sinues were completely smashed in, and the edges of the fractured bone could be traced from the centre of each eyebrow to the peak of the hair on the forehead; neither fissure or fracture of the inner table was discovered; the nasal bones were driven to the left side; the eyes projected laterally, the left one gorged with blood, the right apparently uninjured; pupil dilated, but insensible to light. On inspiration air could be seen bubbling through the wound in the forehead. The hæmorrhage was trifling; pulse 60, small; surface of body cold. He was perfectly sensible, and gave the following account of the accident. Ten minutes previous to his admission, whilst passing through a stable in the dark, a horse kicked him violently. He was not unsensed by the blow, but rose up, spoke to the horse, and walked with assistance part of the way to the hospital. Water-dressing was applied to the wound, and hot bottles to the feet.

14th, 1 A. M.—Is now comatose; consciousness left him gradually; breathing regular, heavy, but not amounting to stertor; sphincters relaxed; voluntary muscles unaffected; excessively restless.

Applic. Catapl. Sinap. cru. Inject. Terebinth. st. Tea and gruel to be given him.

15th, 9 A. M.—Passed through yesterday and last night in much the same state, bowels acting freely; urine dribbling away from him. He can now be roused, and answers questions, but continues very restless; breathing less heavy, nearly natural; skin perspiring; pulse 86.

16th, 9 A. M.—More sensible, but irritability of manner great; bowels acting freely; pulse 80, feeble.

1 P. M.—Has regained the control over his sphincters.

17th, 9 A. M.—Was very delirious in the night, but is now perfectly sensible on being spoken to; tongue clean; bowels open; pulse 64; skin perspiring.

Catapl. Panis to wound, and to have a little broth and gruel given him.

18th.—Quiet night; pulse 64; the wound healing at its circumference by first intention; no attempt at suppuration.

19th, 9 A. M.—Manner continues very irritable; pulse 66; tongue coated; bowels not open.

℞ Ext. Col. c. Pil. Hydrg. aa. gr. v. st.; Liq. Am. Acet. ʒss.; Tinct. Hyoscyami, ♏v.; Aquæ, ʒvj. 4tis horis sumend.

21st, 9 A. M.—Irritability much diminished; complains of some pain in the head; pulse 68; bowels open.

23d, 9 A. M.—Manner natural; pulse 66; the wound is rapidly healing, and the suppuration is very trifling. He can now distinguish light from darkness with the right eye; the left is quite dark.

26th.—Vision of the right eye improving; sees objects, but cannot distinguish them.

26th.—To have a mutton-chop, and half a pint of porter.

Omitte Mist.

28th.—Steadily improving; wound all but closed.

January 8th.—No alteration in vision since the 25th. To get up for an hour.

9th.—Suffered a little from pain in his head last night; pulse 68; bowels not open.

Pil. Hydrg. gr. v. st. Haust. Rhæi postea.

26th.—Discharged cured; right eye prominent, and vision nearly natural; the left eye atrophied and its function destroyed; wound healed. Up to the time of his discharge he had no recollection of any circumstance connected with the accident.

Mr. Phillips observed that there were points of great interest in this case. First, the fact that the blow was so severe as to smash the outer table of the skull without occasioning sufficient vibration to produce any decided sign of concussion; exemplifying the correctness of the common illustration of the different effects of fracture and concussion, as shown on an earthen vessel. A smart blow which does not fracture occasions a ringing sound, or vibration, such as is supposed to occur in concussion; while where there is fracture the vibration is extremely trifling.

In the present case, then, there was no sign of concussion for two hours after his admission; and it may be questioned whether the symptoms which were apparent on the next morning were more clearly referrible to concussion or compression. The symptoms alluded to were the total abolition of mental consciousness, and perfect loss of control over the sphincters; perfect unconsciousness that the urine and fæcal matter passed, while the whole of the volntary muscles were unaffected by any thing like paralysis. The mental unconsciousness continued for 36 hours; the power over the sphincters was not recovered for 60 hours.

The point difficult to explain is the cause of this state: was it compression at all? If it were, did it exist at some point of the brain, or was it in the spinal chord? Was the agent serum or blood, or something else?

If it were simply the result of concussion, why were the effects not manifested for hours after the injury, although there was perfect consciousness in the interval?

It is probable that it was not compression, because one can scarcely realise a compressing agent acting on so small a space and so completely removed in a few hours.

The truth is, that our knowledge of the pathology of the brain is not yet sufficiently advanced to enable us to explain these and many other points connected with injuries of that organ.

There is reason to think in this case that the man owed his life to the possession of very prominent frontal sinuses, the interval between the outer and inner table being so great that the shock fell only lightly upon the inner table and upon the organ within.

With respect to the tardy development of the symptoms of concussion, there is in the hospital at this moment a little girl, who ran with her head against her father's elbow; continued to run about for ten minutes, when she complained of giddiness and vomited, lay down, and became comatose; and in this state continued for four hours, when it more or less completely disappeared.

## Selections from British and Foreign Journals.

### SPECIAL PATHOLOGY.

#### CASE OF SCIRRHUS OF THE GALL BLADDER. BY REGINALD BURRIDGE, M.D., SENIOR PHYSICIAN TO THE TAUNTON AND SOMERSET HOSPITAL.

M. R., aged 42, a patient of the Taunton and Somerset Hospital, under my care. About four months previously to admission, the catamenia ceased to appear, and about ten weeks afterwards she was affected with jaundice. Purgatives and mercury having been found inefficient, she was finally advised

to enter the hospital. Upon admission the whole surface of the body and the conjunctivæ presented a greenish-yellow hue. There were great emaciation and debility, which were described as increasing rapidly. The gums, lips, and cheeks, were the seat of dark sloughing ulcers, produced by the mercury. There was a sensation of sinking and anxiety at the precordia, but no pain or tenderness; no fulness of either hypochondrium, but a marked fulness of the abdomen. The liver could not be felt below the margin of the ribs; and rather severe pressure, exerted in an upward direction towards the diaphragm, elicited no expression or sensation of pain or tenderness. No headache; no rigors; slightly hurried respiration, but no cough or dyspnœa; pulse soft, quick, and compressible; the bowels were obstinately constipated; the urine very scanty, and of a chocolate colour. A scirrhous knot, about the size of a large nutmeg, occupied the left mamma, but had not increased for a long time, and gave no pain or other indication of its existence there. The urine and fæces were found on inspection, and the application of the usual tests, to contain bile in small quantity. These circumstances led me to the belief that she laboured under one of the forms of cancer of the liver so far advanced as to cause obstruction of the ducts by pressure or spasm. The treatment was grounded upon the latter view, as affording the best chance of prolonging life. It was ineffectually attempted to restore the healthy action of the bowels and the normal condition of the urine; the ulcers of the mouth were rapidly healed by a chloride gargle, and the woman's strength was supported to the utmost. The excretion of bile was in vain solicited by gently evacuant and sooothing measures directed to the duodenum, and by iodo-mercurial friction externally. One day, during my morning visit to the hospital, I found that a sudden change had taken place for the worst. She had now great prostration, much pain and tenderness in the right hypochondrium; nausea; vomiting of a dark-brown turbid fluid; hiccough; sunk and contracted countenance; small, rapid, and unequal pulse, with coldness of the surface. By the use of very prompt measures, she rallied out of this state, and lingered on for about a month, when she expired.

At the *post-mortem* inspection, the lungs were found perfectly healthy and free from adhesions. The heart was remarkably small, pale, and flaccid; which Louis states to be the case in persons dying from cancer. The cardiac and pyloric orifices of the stomach were also free from disease. The duodenum presented no morbid appearance, except that the orifice of the common duct could nowhere be found. Attached to it, however, was a scirrhous mass, of an irregular quadrilateral form, about two inches and a half long by an inch and a half wide, to which the head of the pancreas was also firmly adherent. In this somewhat confused mass the gall bladder was completely lost, though the common duct was traceable at its duodenal extremity for nearly a third of its length. The liver was unusually small, and seemed to lie higher under the ribs than it commonly does; but, with the single exception to be presently mentioned, offered no external appearance of disease. On the concave surface of the liver, in the sulcus near the lower margin, was found a single cacinomatous tuber, presenting a surface rather larger than that of a shilling. Sections of the organ made in different directions gave no other appearance than that described by Recamier as atrophous engorgement. The right kidney was of healthy structure, and the usual size. The ileum and cæcum were found perfectly natural, but the colon was stuffed with ash-coloured fæcal masses of ordinary consistence. The uterus and ovaria were not examined.—*Provincial Med. and Surg. Journal*, Dec. 17, 1845.

Remarks.—The author considers the above case to be an evidence that hepatic bile is insufficient for the purpose of defæcation, however necessary it may be in the first processes of assimilation in the human subject. He quotes Cruveilhier's observation of scirrhus of the gall-bladder occurring independently, and also as a consequence of a carcinomatous state of the liver. Reference is likewise made to two instances detailed by Dr. Bright, in Guy's Hospital Reports; but, from the description of these, we doubt whether they were in reality instances of malignant disease of the gall-bladder, or have a strict analogy to the case related by Dr. Burridge. That case is another instance of the danger which attends the use of mercury, where the principal secernent viscera are in an advanced state of organic disease.—Ed. Gaz.]

## MIDWIFERY.

### INFLUENCE OF THE SEX OF THE CHILD IN DELAYING PARTURITION.

Dr. Murphy fully coincides with Professor Simpson, of Edinburgh, in the conclusions—1st. "That the dangers and difficulties of parturition are *greater to the mother* in male than in female births;" and 2d. "The dangers and accidents from parturition and its results are *greater to the child* in male than in female births." Dr. Murphy then proceeds to observe: "Professor Simpson correctly attributes these effects to the greater size of the head at birth in male infants, a fact already noticed by the late

Dr. Joseph Clarke, of Dublin. I should be disposed to add, that not only is the size greater, but that the ossification of the bones is more advanced, and therefore they are less disposed to yield. The head of the healthy male child is rounder, more oblong, and the fontanelle more distinct. These characters, along with the increased size, contribute to produce greater difficulty in its passage through the pelvis. The head being too much ossified, is therefore a very frequent and too often a very embarrassing cause of delay in the second stage of labour. When a vaginal examination is made, the posterior fontanelle is not distinctly felt; it seems to be only a central point to which the lambdoid and sagittal sutures converge; the sagittal suture is indistinct, the head presenting a round, firm, equal surface. When a head is so formed, it will generally pass through a pelvis of the average proportions, although slowly and with difficulty. It is when the pelvis deviates from the standard, and is diminished in its proportions, that these difficulties increase to a dangerous extent." Dr. Murphy is able to confirm Professor Simpson's statements by the result of his own experience in the Dublin Lying-in Hospital. Having noted all those cases in which the duration of labour extended to or exceeded twenty-four hours, the following results were obtained in reference to this question:—There were in the total number of patients delivered (5699), 213 such cases, of which five were twin births; 126 of these were boys, and only 92 girls, or in the proportion of three to two; 46 of the boys died, and 35 of the girls, being nearly one-third of the whole number. About 80 of these 213 cases occurred when that hospital was under the superintendence of Dr. Collins, and are therefore included in 16,654 cases reported by him; the remainder were observed during the two years subsequent to that report. From these facts, then, it may be concluded that the majority of cases where labour is difficult are those with male children; and, as the greater size of the head is proved to be the cause, the difficulty must be in the second stage.—*Murphy's Lectures on Parturition.*

## Correspondence.

### ON THE OPERATION OF THE EXSECTION OF THE LOWER JAW FOR OSTEO-SARCOMA.

Sir,—The enclosed letters from Dr. Valentine Mott, of New York, to Mr. Liston, having been put into my hands at the request of the former gentleman, who wishes me to dispose of them in any way which I may judge proper; I beg leave to forward them to you, believing that the publication of them in your respectable journal will not be uninteresting to the profession.

I transmit at the same time, some particulars of the removal of the half of the lower jaw in 1804, by Mr. Anthony White, Surgeon of the Westminster Hospital.

Your obedient servant,

Samuel Cooper.

Woburn Place, Russell Square,
Feb. 17th, 1846.

"New York, Oct. 24th, 1845.

"My Dear Sir,—I send you enclosed a short letter, setting forth my claims to a surgical operation with the importance of which you are as familiar as any man. You are at liberty to use it in any way you see fit. I wish you would hand it to my venerable friend, Samuel Cooper, Esq. and put it at his disposal in any way he may please.

"In these busy days of ours it is very necessary that every one should take good care of himself, and request the same to be done by his friends.

"I have lately tied the left subclavian at the outer edge of the scalenus, for a tremendous aneurism of the axillary artery from a gun-shot wound. The extravasated blood extended to the shoulder and neck, and the enormous tumor was cracked, and on the point of giving way. The operation was difficult from the confusion caused by the extravasated blood. The patient recovered.

"One of my colleagues in the New York Hospital, Dr. Rogers, tied the *left subclavian artery within* the scaleni muscles for a small true aneurism, about the size of a hen's egg, situated just without these muscles. It was done nine days since, and so far the man is doing well. This is the first time that this artery has been tied within these muscles of the left shoulder—*is it not?* I know Sir Astley attempted it in 1809, but could not get the ligature around it, for the want, *shall I say*, of the American hook or needle.

"Dr. R. thinks he did not lacerate the thoracic duct; time will tell us, however; the patient has yet to pass the separation of the ligatures—*an awful period.*

"In my case a number of years since, the next to Colles's case, in which I tied the right subclavian within the thyroid axis, every thing went on as well as could be until the fourteenth day, when hæmorrhage appeared, and continued at times from day to day, until my patient perished.

"Has not the right been tied now four times within the scaleni, and have they not all died from secondary hæmorrhage? Excuse me for naming myself before you. First, by Dr. Colles; then Dr. Mott; third, Mr. Liston; and fourthly, Mr. Partridge.

"I will let you know the result of the present case.

"Truly and sincerely your friend,

"VALENTINE MOTT."

"*Robert Liston, F.R.S.*"

"New York, Sept. 23d, 1845.

*To Robert Liston, F.R.S. Professor, &c.*

"My dear Sir,—The great object in all our investigations ought to be truth. In no profession is it more important than in the healing art. Our noble profession, if exercised upon this basis, becomes an ornament and a blessing to our race.

"You are in common with all men tenacious of your own rights, and I cheerfully believe will magnanimously award what is just and right to others. I appeal to you, therefore, as a professional friend, to weigh me in the balance of justice, and I shall have great pleasure in awaiting your decision.

"I claim for myself, and for my country, *originality*, in the operation of exsections of the lower jaw at the temporo-maxillary articulation, and in different proportions for osteo-sarcoma. I avow and declare solemnly, that I never saw, read, or heard of any thing of the kind ever having been done in any country. There are surgeons now living in this city who saw my first operation, and all of them will cheerfully testify to the truth of what I assert.

"Far be it from me to presume to say, that other surgeons may not have thought of the same expedients, and since executed the same operation, without the least knowledge of what had been done by me. Of one thing, however, I am certain, that an eminent surgeon, now in Paris, informed me, that he took the printed sheets of my first case with him to Paris, and told M. Dupuytren of them; he (Dupuytren) requested a translation to be made, stating that in a few days he would give a clinique upon that subject. The translation was made by my friend, and handed to Dupuytren. He gave his lecture with my case in his hand, but made no allusion to it. My firm belief therefore is, that my operation for osteo-sarcoma was performed before those of this eminent surgeon.

"Some two or three years after the publication of my first case, I read an account of several cases which were operated upon by my friend Dr. Cusack, of Dublin. Knowing as I do personally that distinguished surgeon, it never occurred to me to say anything in relation to this subject, in all our intercourse in Dublin and Paris. From whom he derived the idea, therefore, I know not; it may also have been original with him. This, however, can only be answered by Dr. Cusack himself. As you have stated in your lectures published in the Lancet, that Dr. Cusack was the *first* to perform the operation of exsection of the lower jaw for osteo-sarcoma, I have felt constrained to make to you this statement in justice to myself.

"My first operation was performed on the 17th November, 1821, and is published at length, with plates, in the New York Medical and Physical Journal, vol. i. p. 385.

"Since that period I have performed this operation *seventeen times*. In three instances, the bone was removed at the temporo-maxillary articulation. In one of the cases the bone was sawn through at the first bicuspis tooth of the opposite sides.*

"All surgeons of reading or observation must be aware, that from time immemorial, either large portions, or even the totality of the lower jaw, have been removed or destroyed by violence, various accidents, and in latter times by gun-shot wounds, fire-arms, &c. It has, also, long been familiarly known that partial or total destruction of the lower jaw has been spontaneously produced by the morbid processes of caries, necrosis, &c. Thus nature herself, in these latter cases particularly, pointing out as it were to the surgeon, from the perfect restoration to health that has succeeded to such disasters, that he himself might venture to follow in her footsteps.

"For the great historical details we refer to Velpeau's Operative Surgery, head Exsections, Vol. 2. Paris edition. 1839.

"But, lastly, we repeat and aver, that the exsections of the lower jaw of even a fourth part, much less a half or two-thirds of it, for any form of sarcoma involving the whole texture of the bone, have never in our opinion been performed by any surgeon, past or present, until by myself, at the time above stated.

"The *onus probandi* to show that my claims are unfounded rests with others. For my part, I know of no record in existence now, nor did I know of any at the time I performed the operation, as I have already said, which can in the slightest degree militate against my pretensions.

"Even admitting that M. Dupuytren did exsect a portion of the lower jaw prior to myself, it is conceded by Velpeau, who pronounces his operation altogether *new*, and a *great triumph* in surgery, that it was performed for cancer, and not for osteo-sarcoma.

"Indeed we find that so eminent an authority as M. Ribes (Dictionnaire des Sciences Médicales, tome xxix., p. 431, Paris edition), also positively asserts, upon the testimony of M. Lisfranc, who assisted at

* See this case with plates in the Medical and Philosophical Register of New York, others of my cases are distributed through the different periodicals of our country.

and published an account of the above operation of M. Dupuytren, in 1812, that it was a *cancerous degeneration;* and to show, furthermore, that M. Ribes himself so considered it, he, in his preliminary observations on the lower jaw, in the same work, speaks in the following *prophetic* language, in reference to the pleasing anticipation, that this exsection for cancer would ultimately pave the way for a similar operation for the cure of that hitherto intractable and fatal malady, osteo-sarcoma. His words are as follows:—

"'These facts lead to the hope that fungus or *osteo-sarcoma* of the lower jaw, a disease so formidable that it has in many cases been vainly attacked with the iron and fire, will *henceforward, since the operation performed by M. Dupuytren, be removed by amputation* of a portion *more or less considerable* of the *lower jaw*, without the danger of any accident, and if the *disease is local*, with a certainty of success.'

"We are also aware that M. Bégin (Dictionnaire de Médecine et de Chirurgie Pratique, Vol. xiv. p. 259, Paris 1835), states, that Dr. Fischer appears to be one among the first who has performed the exsection of the inferior maxillary bone at the temporo-maxillary articulation. His operation dates in the year 1795, and furthermore M Bégin remarks (ibid), that he has been successively imitated by Mursinna, Graeffe, Mott, Dzondi, M'Clellan, Liston, Jæger, Dupuytren, Walther of Bonn, and MM. Gensoul and Lisfranc.

"So far as the *disarticulation* of this bone is concerned, M. Velpeau (the most accurate living authority in relation to the history of surgery) distinctly asserts, that M. Palmi was the individual who first disarticulated the lower jaw.

"For ourselves we can assert, that without attempting to *imitate* any of our predecessors, the disarticulation of the lower jaw, where we have resorted to this, has been performed by us purely in reference to the exigencies of the case as presented while exsecting this bone for osteo-sarcoma, and that we claim priority and originality both for this exsection for osteo-sarcoma, as well as for the single curvilinear incision below the base of the jaw, by which the operation is accomplished.

"With considerations of the highest respect, believe me to be truly your friend,

"VALENTINE MOTT."

"P.S.—Dr. W. H. Deadrick, of Athens, Tennessee, published in the sixth volume of the American Medical Recorder, for 1823, an account of an operation by which he removed the lower jaw from the angle to the centre of the chin, for a large cartilaginous tumor, which occasioned great difficulty of swallowing and breathing. The patient was a lad, fourteen years old; and the operation was performed in 1810. The boy had a speedy recovery.*

"This case was made public two years, therefore, after the publication of my first operation."

*Case of removal of the whole of the left half of the lower jaw, in* 1804. By ANTHONY WHITE, Surgeon to the Westminster Hospital.

A POOR man, the farm-servant of the Rev. George Hewett, of Queen's College, Cambridge, had for several years been seen in the streets of that town with his head always enveloped in a coloured handkerchief. He would never shew his face to any one; and report said he had a frightful disease under this covering. Mr. Hewitt was my friend, and as he was on the point of leaving Cambridge, his master advised him to shew himself to me. I found an enormous fungoid warty growth, extending from the under part of the left ear down and somewhat beyond the symphysis of the chin. Many sinuses were discovered on its surface; the eye was considerably projected from its orbit; and the whole aspect was disgusting and frightful. The history of the case was as follows:—He states, that six or seven years previously, on putting a halter on a horse, the animal threw up his head and struck him a severe blow on the jaw; that after a time an enlargement took place, which finally ulcerated, and became so disgusting that he was compelled to hide it with a handkerchief. I endeavoured to ascertain with a common probe the condition of the bone, but the probe was too short, and could not reach the bottom of the mass of fungoid excrescence. Having prepared myself with a longer probe, I now passed it down to the diseased bone, and plainly struck the probe upon his jaw bone; the whole jaw had become immoveably fixed at each articulation, and he existed by drawing into his mouth, by sucking inspirations, fluid animal broths and milk. It was now evident that the disease, which had commenced in the left jaw and had rendered it immoveable, had subsequently rendered useless the right articulation.

After considerable reflection on the probable condition of the deeper seated parts, I determined to explore them; and in the presence of Dr. Clarke, the present anatomical professor at Cambridge, and one or two practitioners residing in the town of Cambridge in the year 1806, it being the year subsequent to my obtaining the diploma

* For the above particulars I am indebted to my friend, Professor Gross, of Louisville, Kentucky. See his manuscript letter to me, dated September 25, 1845.

of the College, I proceeded to examine and to remove the entire left side of the jaw, from its articulation at the glenoid cavity to nearly the symphysis of the chin on the same side. An incision was made into the fungoid mass, extending from opposite the articulation at the glenoid cavity of the left side, downwards and forwards, to nearly the symphysis of the chin on the same side. All the arteries appeared to have become obliterated, for the hæmorrhage was very trifling, and the whole bone, at a considerable depth from the surface down to its lowest part, was laid bare. Attempting to dislodge the bone with a polypus forceps, I discovered it had been fractured near the symphysis originally, by the blow given by the head of the horse, and which had never been detected. I now introduced a straight narrow saw midway between the condyloid and coronoid process, which, when quite divided, I was enabled to bring away in two distinct portions—the coronoid part with ease, the condyloid requiring a little more time to be disentangled. I now passed my finger with ease into the glenoid cavity, which had apparently been denuded of its cartilage. The wound was dressed with water dressing; the opposite articulation, in a short time, resumed its natural action, and the mouth could be freely opened. The wound healed well, and the eye returned within its orbit. I presume, from the great condensation of the sub-structures, the blood-vessels had become obliterated, for there was very little hæmorrhagy. The man lived six or seven years afterwards, and became stout and healthy.

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## NÆVI MATERNI MISTAKEN FOR MARKS OF VIOLENCE.

Sir,—Mr. Harvey's interesting "account of a very unusual mark (nævus) on the neck of an infant," published in the Medical Gazette of Feb. 27th, recals to my memory a somewhat similar instance, and which in some degree affords an illustration of the judicious observation with which he closes his communication. A few years since, a young woman was delivered in a union-house of a fine babe, about five o'clock A.M., with the assistance of an experienced midwife; it was a primiparous birth, and illegitimate. At eight o'clock the nurse left the room, going down stairs for her own and the patient's breakfasts. On her return she found the young woman in great distress with the infant dead in her arms. Upon an immediate examination of the corpse by the matron and others, two red marks were observed, one on each side the nose, upon the skin of the anterior margins of the cartilaginous alæ, and which, it was said, had not been seen before. An idea that the little innocent had been *burked* by its parent immediately flashed across the minds of the sagacious bystanders, which impression was unluckily confirmed by the medical officer, after his inspection of the abnormal parts. The coroner was sent for, who summoned a jury, and the usual mode of investigation was adopted to determine the cause of death of the new-born child. Having heard strange and varying reports of the mysterious death, I had the curiosity to attend the inquest, and was permitted to examine the marks which had led to the official inquiry. Upon each ala of the nose, as before stated, I found a light red spot, about the size of a silver penny, their periphery pretty well defined, and no abrasion of surface; with a lens of one inch focus I could not detect the form of vessels in them, they were very symmetrical to each other, and they reminded me very much of the pseudo-nævi so frequently observed upon the upper eyelids of new-born children. I cut through them with a lancet; there was no extravasation, and I found that the mark was confined to the cutis vera. It is probable that a high magnifying power would have detected a true vascular texture in them. I am disposed to consider such marks rudimentary forms of nævi.

Some years since, I met with a *mark* answering in every particular to the one described by Mr. Harvey, with the exception of its being situated upon the infant's upper lip: it faded away in about the period of time that the marks upon the eyelids are observed to do. But to return to the subject of my communication. It was elicited, during the investigation, from the midwife, that, although it was a fine child, it made such a curious *din* (moan) for some little time after its birth, that she had advised its being named upon the arrival of the chaplain that morning (Sunday); and both the midwife and the nurse testified that the young woman had exhibited the usual solicitude for the healthiness and well-doing of her offspring.

I was not examined as a witness, but upon being asked my opinion in reference to the question of the cause of death, I stated that from the small size of the marks, their symmetrical form, the absence of extravasation in and around them, as well as the non-appearance of contusions about the mouth of the child, it was my decided opinion that the marks had nothing to do with the death of the infant.

In conclusion, I will venture to assert, that, but for the presence of those marks on the nose, in this instance of illegitimate birth, no suspicions would have arisen, and consequently no inquest would have been called for.—I am, sir,

Yours very faithfully,

C. B. Rose.

Swaffham, March 5, 1846.

# Medical Intelligence.

### ROYAL COLLEGE OF SURGEONS.

Mr. J. H. Green has been elected a member of the Court of Examiners of the Royal College of Surgeons, to fill up the vacancy occasioned by the resignation of Sir Benjamin Brodie.

### SUCCESSOR TO BRESCHET.

The concours for the Chair of Anatomy in the Faculty of Medicine, rendered vacant by the death of M. Breschet, has terminated in the election of M. Denonvilliers by a majority of nine out of twelve votes. M. Chassaignac and Gosselin are reported to have highly distinguished themselves in this concours.

### THERAPEUTICAL APPLICATION OF CAOUTCHOUC.

Common salt was at one time regarded as a sovereign remedy against phthisis in all its stages; but it has resumed its old station as a culinary article, and is now beneficially employed only by cooks. Cod-liver oil succeeded the saline treatment, but this appears to be gradually losing ground, and before long will probably share the fate of common salt. A Presburg physician has, however, contrived to stumble upon a remedy which certainly has the merits of novelty and *originality* over the two above mentioned plans of treatment. This is the inward use of *caoutchouc* or Indian-rubber as a therapeutical agent! According to the account given by its discoverer, its powers are marvellous. A boy twelve years of age labouring under hectic fever swallowed by mistake two drachms of caoutchouc: in six weeks he was perfectly cured! A woman aged 38, who was in a very advanced stage of phthisis, having been informed of the above mentioned result, stole some pieces of caoutchouc and swallowed them: her symptoms became speedily alleviated. The caoutchouc was repeated, and she was perfectly cured!—*Gaz. Medicale*, 14 *Mars*.

### MEDICAL REFORM AND THE NATIONAL ASSOCIATION OF GENERAL PRACTITIONERS.

The following extract from a letter addressed by Sir James Graham to a Deputation of the National Association of General Practitioners shows that there is but little prospect of another Medical Bill being brought before Parliament. The question must for the present, we fear, be considered as adjourned *sine die*.

"It appears to Sir James Graham inexpedient, that a measure of this importance (*i.e.* a Bill for Medical Reform) should again be introduced, unless with a reasonable probability of its giving satisfaction to the profession generally: the communications which he has received on the subject during the recess, do not justify him in entertaining any such expectation."

The last number of the Transactions which has just reached us contains a fair summary of the proceedings of the Committee from the first establishment of the Association. It will be seen from the following extract that although the Home Secretary has virtually abandoned the measure, the National Association does not despair of carrying out the objects which it regards as necessary for the improvement of the profession.

A Public Meeting of the Association is appointed to be held on the 17th day of April next, and at that Meeting it is the intention of the Committee to make a full report of their proceedings and of the state of the Association; they will, at the same time, be prepared to recommend a matured plan to the National Association, for carrying into effect, without waiting either for a Charter or for an Act of Paliament, a representative institution upon a liberal basis, and upon the broad principle that medicine and surgery are one science, and for the purpose of urging upon the public mind and upon the legislature by every legitimate means, the correctness of that principle—universally in an educational point of view—and generally in a practical point of view;—of making the public more fully aware how much their interests are involved in this question, and of the paramount importance to the health and happiness of the community, of a high standard of education and qualification in the class of medical functionaries who practise upon that principle.

The Committee however believe that when the true bearings of this question are sufficiently urged upon an unprejudiced government, and upon the legislature, there can be no insuperable difficulty in obtaining the Grant of a Charter of Incorporation, and the sanction of an Act of Parliament for the purpose of carrying out its provisions.

At the commencement of this address, the Committee directed attention to the fact, that the National Association itself was not unfettered when it came into existence; the Committee congratulate the Association again that the parties to whom they confided one of the most important trusts that was ever reposed in individuals, have not in the slightest degree swerved from, but have in the most praiseworthy manner, in the midst of accumulating difficulties, maintained, in their fullest integrity, the original principles on which the Association started.

The abandonment of the Bill leaves an open course for the future. Every member of the National Association is invited to attend the contemplated meeting; the acts of the Committee will then be placed entirely at the disposal of the Association; the Committee have not, nor ever have had, any personal

or private motive of their own to serve—they are averse to agitation of any kind; and individually and collectively they affirm that nothing short of a duty which they felt they owed to their professional brethren, and to the large proportion of the population of these realms whose health and lives are committed to the charge of the class of medical and surgical practitioners to which they belong, could have induced them to make the sacrifices which have accrued, in their efforts to stem the tide of an aggressive and injurious course of legislation, and to prevent the infliction and perpetuation of an egregious public wrong,

March 4th, 1846.

REPORT OF COMMISSIONERS IN LUNACY.

COPY of Report to the Lord Chancellor, under the 8th and 9th Vict., c. 100, s. 88, of the number of Visits made, the number of Patients seen, and the number of Miles travelled by the several Commissioners in Lunacy, during the Six Months ending the 4th of February, 1846.

| Commissioners. | Visits made. | Patients seen. | Miles Travelled. |
|---|---|---|---|
| Thomas Turner, M.D... | 148 | 6,593 | 3,351 |
| J. R. Hume, M.D. .... | 105 | 3,813 | 2,713 |
| B. W. Procter ..... | 131 | 6,550 | 3,138 |
| J. W. Mylne ..... | 170 | 5,382 | 4,081 |
| J. H. Hall ..... | 11 | 876 | 729 |
| J. C. Prichard, M.D. .. | 102 | 4,626 | 2,052 |
| W. G. Campbell ..... | 22 | 395 | 915 |

R. W. S. LUTWIDGE, *Sec.*
H. J. PERRY, *Principal Sec.*

Office of Commissioners in Lunacy,
19, New Street, Spring Gardens.
February 28, 1846.

OBITUARY.

THE late Staff-Surgeon, Dr. William Fergusson, after serving twenty-five years on the coast of Africa, was promoted in September 1839 to the rank of Staff-Surgeon of the first Class. From September, 1823, to the beginning of the present year, Dr. Fergusson, with the exception of two short periods of leave of bsence in 1830 and 1839, was constantly employed at Sierra Leone, devoting himself to the study of the causes, nature, and treatment of the diseases of that fatal station. The zeal and intelligence displayed on occasions when the peculiar circumstances of the colony brought him into communication with the Home Government, attracted the notice of the Secretary of State for the Colonies, who first appointed him Member of Council, and after several times holding the responsible situation of Acting Governor, the following announcement appeared in the Gazette.

"Downing Street, May 3, 1845.—The Queen has been pleased to appoint William Fergusson, Esq. to be Captain-General and Governor-in-Chief in and over the Colony of Sierra Leone and its Dependencies."

This valuable public functionary did not long survive the honour thus conferred upon him. In the hope of benefiting his health, which had much deteriorated of late, he embarked for England, and died on the passage, on the 19th January, 1843.

DR. R. PINCKARD.

ON the 10th instant, at his residence, 18, Bloomsbury Square, Dr. Richard Pinckard, Physician to the Bloomsbury Dispensary.

ON the 1st instant, at his residence, 10, Bedford Place, Russell Square, after lingering illness, John Turner, Esq., Surgeon, aged 46.

ON the 17th inst., James Mellis, Esq. M.D. Fellow of the Royal College of Physicians of Edinburgh, and of the Royal College of Surgeons of England, and late member of the Medical Board, Bengal, aged 65.

SAUNDERIAN INSTITUTION.

WE have been requested to announce for the information of medical practitioners and students, that Mr. Battley will open this Institution, in Moorfields, on the 25th inst. for his annual exhibition of officinal drugs. Mr. Battley intends to exhibit the finest specimens that are brought to this country, and to point out the sensible characters which indicate their value. The drugs will be exhibited, as heretofore, in classes, according to their ordinary action on the body; and one class will be replaced by another at convenient intervals. A complete museum of materia medica, consisting of superior and ordinary specimens contrasted, will be prepared for the use of medical students.

Mr. Battley will also devote a portion of the day to the operations of the laboratory, consisting of the analysis of drugs, and the investigation and preservation of their medicinal properties. The most important of these analyses will be published occasionally in this journal. The preparation of the class of medicines, termed by Mr. Battley "liquors," will be constantly open to inspection, that the medical profession may have the opportunity of seeing as well as of hearing the precise manner in which it is conducted.

In making this announcement we are authorised to state that it is Mr. Battley's wish to promote by every means in his power the improvement of pharmacy; and to increase to medical students the facilities of gaining information in this department of medicine. He is anxious to communicate the experience acquired by the labour of 40 years passed in the laboratory, and to exhibit in operation the principles which his experience has led him to adopt.

Upwards of 2000 pupils have already

availed themselves of this opportunity in former years. Admission to the museum and laboratory between the hours of 10 and 4 daily, will be given to any gentleman on application to Mr. Howard, at the Ophthalmic Hospital, Moorfields.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, Mar. 7.*

| Births. | | Deaths. | | *Aver. of 5 yrs.* | |
|---|---|---|---|---|---|
| Males.... | 669 | Males.... | 429 | Males.... | 493 |
| Females . | 660 | Females . | 431 | Females . | 475 |
| | 1329 | | 860 | | 968 |

### Deaths in different Districts.

(34 *in number;—Registrars' Districts*, 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| West—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 110 |
| North—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 180 |
| Central—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .....(Pop. 374,759) | 151 |
| East—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .....Pop. 393,247) | 167 |
| South—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .....(Pop. 479,469) | 252 |
| Total ..... | 860 |

### Causes of Death.

Col. A. Weekly Averages of 5 Winters; Col. B. of 5 Years.

| | A. | | B. | |
|---|---|---|---|---|
| All Causes ..... | 860 | 1080 | 967 | |
| Specified Causes ..... | 858 | 1073 | 961 | |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 160 | 183 | 188 | |
| *Sporadic Diseases*, viz.— | | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 101 | 115 | 104 | |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 157 | 169 | 157 | |
| 4. Lungs, and other Organs of Respiration ..... | 242 | 363 | 294 | |
| 5. Heart and Blood-vessels ..... | 28 | 30 | 27 | |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 79 | 69 | 72 | |
| 7. Diseases of the Kidneys, &c... | 12 | 7 | 7 | |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 16 | 12 | 10 | |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 5 | 7 | 6 | |
| 10. Skin, Cellular Tissue, &c. .... | 1 | 2 | 2 | |
| 11. Old Age..... | 38 | 90 | 67 | |
| 12. Violence, Privation, Cold, and Intemperance ..... | 19 | 27 | 26 | |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 7 | Convulsions .... | 46 |
| Measles ..... | 18 | | |
| Scarlatina ..... | 11 | Bronchitis ..... | 39 |
| Hooping-cough.. | 62 | Pneumonia..... | 66 |
| Typhus ..... | 34 | Phthisis .....106 | |
| | | Dis. of Lungs, &c. | 12 |
| Dropsy..... | 12 | Teething ..... | 13 |
| Sudden deaths .. | 12 | Dis. Stomach, &c. | 9 |
| | | Dis. of Liver, &c. | 8 |
| Hydrocephalus .. | 29 | | |
| Apoplexy..... | 25 | Childbirth ..... | 14 |
| Paralysis..... | 17 | Dis. of Uterus, &c. | 1 |

Remarks.—The total number of deaths was 220 below the winter, and 108 below the annual average. Hooping-cough is still very prevalent and fatal. In all the districts, the mortality was below the averages.

## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

Friday, *March* 6.—H. F. Wilde.—H. Hailey.—D. Hooper.—J. Snelling.—W. E. G. Pearse.—E. J. Burman.—J. D. Rendle.—J. G. Jones.—C. J. Sylvester.

Friday, 13th.—C. E. Sloper.—J. Hirschberg.—A. Gaved.—J. Self.—O. S. Winstanley.—W. H. Holman.—J. S. Ramskill.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

Thursday, *March* 12th.—Robert Richard Crucifix.—Barzillai Augustus Harling, Chester.—William Gibbs, Yalding, Kent.

## METEOROLOGICAL SUMMARY.

| | |
|---|---|
| Mean Height of Barometer .....29·58 | |
| „ „ Thermometer[a].....47·6 | |
| Self-registering do.[b] ..... max. 67° | min. 25° |
| „ in the Thames water. — 52° | — 47·2 |

[a] From 12 observations daily. [b] Sun.

Rain, in inches, 0·42: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was 3·7° above that of the mean temperature of the month (43·9°). The extreme hebdomadal range in the self-registering thermometer was 42°.

## NOTICES TO CORRESPONDENTS.

The conclusion of Mr. Butler Lane's paper has been received, and we will make arrangements for its early publication in two parts.

Mr. John Thurnam.—We will make inquiry respecting the book.

Dr. Day.—An answer will be sent.

We are obliged to a correspondent for calling our attention to the Health of Towns' Bill. We intend to notice its leading features, when it is again brought before parliament.

We would advise our correspondent, who writes to us from Manchester, under the signature of "Bede," to apply to Dr. Christison, who will, we are sure, furnish him with an answer.

Mr. D. W. Crompton's cases have been received.

The contributions of Dr. Dick, Mr. King, and Mr. Copeman, in our next number.

We regret that we have been obliged to postpone the letters of Mr. Lonsdale, A Practitioner, Mr. Kirk, Dr. Ogier Ward, and Mr. Olley. They are in type, and will appear next week.

*Received.*—Mr. Copeman, No. 4.—Mr. W. Brown, Callington.

*Erratum.*—At foot of p. 378, in Dr. Glover's paper, on Sialorrhea, for "flakes, 4·0," read "0·4."

NEW WORK BY SIR BENJAMIN BRODIE.

This day are published, in 1 vol. 8vo. price 12s. cloth,

LECTURES illustrative of various subjects in PATHOLOGY and SURGERY. By Sir BENJAMIN C. BRODIE, Bart. F.R.S. Foreign Correspondent of the Institute of France, &c. &c.; Serjeant-Surgeon to the Queen, and Surgeon to H.R.H. Prince Albert.

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"We have read this treatise with much interest, and we are sure that every one that opens the volume will allow that it is not only replete with information brought down to the latest period, and of a very practical character, but that it is conveyed in an agreeable and interesting manner. It is difficult to specify any one part of the volume as more deserving attention than another, for all are ably done."—EDINBURGH MEDICAL AND SURGICAL JOURNAL.

London: John Churchill, Princes Street, Soho.

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ROYAL COLLEGE of SURGEONS of ENGLAND.—Notice is hereby given that Examinations for the Fellowship will take place at this College on Tuesday the 7th and Thursday the 9th of April next.

The By-Laws and Ordinances relative to the Fellowship, with other particulars, may be obtained on application to the Secretary.

The requisite Certificates and Testimonials must be forwarded to the College at least ten days before the period appointed for the Examinations. (By order),

EDMUND BELFOUR, Sec.

March 11, 1846.

---

DR. G. BURROWS ON DISEASES OF THE BRAIN AND HEART.

In the press, in 1 vol. 8vo. with coloured Plates,

ON DISORDERS of the CEREBRAL CIRCULATION, and on the Connection between Affections of the Brain and Diseases of the Heart. By GEORGE BURROWS, M.D. late Fellow of Caius College, Cambridge; Fellow of the Royal College of Physicians; Physician, and Lecturer on the Principles and Practice of Medicine, at St. Bartholomew's Hospital.

London: Longman, Brown, Green, & Longmans.

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TO ADVERTISERS.

EDINBURGH REVIEW, No. 168.—ADVERTISEMENTS for insertion in No. 168 of the Edinburgh Review, must be sent to the Publishers' by Saturday, the 28th; and Bills on or before Tuesday, the 31st. instant.

39, Pater Noster Row: March 20, 1846.

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Just published, 8vo. price 10s. cloth,

MEDICAL NOTES on CHINA. By JOHN WILSON, M.D. F.R.S. Inspector of Naval Hospitals and Fleets.

London: John Churchill, Princes Street, Soho.

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A DISPENSING ASSISTANT WANTED, who can Visit occasionally, or attend a Case of Midwifery, if required.—Apply, by letter, to Messrs. Thexton and Jackson, Surgeons, Barnsley, West Riding, Yorkshire, stating age and amount of salary required.

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DR THIBERT'S MUSEUM of PATHOLOGICAL ANATOMY, 209, Regent Street.—The Medical Profession are respectfully informed, that the above Museum, representing every Pathological condition of the Human Frame, in models cast from, and coloured after, nature, will be open for exhibition early in the ensuing Week. Admission 1s. which will admit to the Gallery of Tableaux.—Open from 10 till 6.

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HULL and SCULCOATES DISPENSARY.—A Vacancy having occurred in the office of Dispenser to the Hull and Sculcoates Dispensary, the Committee hereby give notice that they will receive applications from Candidates addressed to W. Laverack Esq., Honorary Secretary, Hull, until Saturday, March 28th. The subscribers will proceed to the Election on Thursday, April 2d. Applicants must be Licentiates of the London Apothecaries' Company, and if they possess the Diploma of the Royal College of Surgeons of England it will be deemed an additional qualification. Unexceptionable certificates of moral conduct will be required. An unmarried man would be preferred, as the Dispenser will be required to reside upon the premises. Salary £80 per annum; coals and candles are provided by the Institution.

An Assistant Dispenser (who need not be a legally qualified man) will be appointed by the Committee at a Salary of £30 per annum.

Hull, March 6, 1846.


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**Friday, March 20, 1846.**

## Lectures.

### A COURSE OF LECTURES ON MEDICAL JURISPRUDENCE.

*Delivered at Guy's Hospital,*

By Alfred S. Taylor, F.R.S.

Lecture IV.

*Coagulation of the blood as a sign of death.* —Putrefaction—*period of its occurrence — post-mortem hæmorrhage — pseudo-morbid appearances in the alimentary canal—change of colour in the skin—conclusions respecting this sign of death—putrefaction in air—influence of temperature and moisture — action of oxygen.— Modifying conditions—age—peculiarity of constitution—state of the body—influence of disease—effect of poisons.—Antiseptic properties of arsenic —Putrefaction in water—circumstances which modify its progress—buoyancy of drowned subjects from gaseous putrefaction.*

*Coagulation of the blood.*—There is one sign of death to which I have not yet adverted; namely, that depending on the *coagulation of the blood.* M. Donné has recently suggested that in order to determine the reality of death before the access of putrefaction a small portion of blood should be drawn from a vessel, and it should then be observed whether it coagulates or not. If instead of a red homogeneous *coagulable* liquid we only obtain a reddish-coloured *uncoagulable* serum, from which the red particles speedily subside as a red sediment, we are justified in inferring that life has ceased,—a conclusion at which we could not arrive if even the smallest portion of coagulum should be formed. This appears to be a fair physiological test, and easy of application. When the blood has once coagulated there must be an arrest of circulation, and although it might become again fluid, this would only be under the influence of putrefaction, and it would not thereby recover a coagulating power. One of the great characters of blood effused from the living body is, that it coagulates speedily after its effusion. Thus drops from an artery thrown on furniture or a wall speedily consolidate, assuming an oval or long elliptical form, the narrow point downwards, and at this part will be found the coagulum of fibrin locking up the hæmatosine. Blood sprinkled from a dead body is more liquid, forms a long irregular drop, and only dries up by evaporation; it has no coagulating property.

We do not know, however, the exact period at which the blood coagulates after death. Out of the body coagulation begins in from five to ten minutes; in the body it probably does not commence until it begins to cool, although, as we have seen, this cooling sometimes take place very slowly. It might be objected, that in some cases the blood loses its property of coagulating. This, however, is an unimportant objection.

We shall now pass to the consideration of what all must regard as an infallible sign of death; namely, the process of putrefaction.

*Putrefaction.*—By putrefaction, we are to understand those chemical changes which spontaneously take place in dead animal matter, and the effect of which is, after a longer or shorter period, to reduce the organic to the condition of inorganic compounds.

This process does not begin to manifest itself in the body until after the cessation of cadaverous rigidity, and generally about the third day. It is then observed, if the subject be exposed to the atmosphere in an apartment of mean temperature, that the limbs and trunk become supple and pliant, and yield a faint odour. The skin covering the abdomen becomes of a green colour, which gradually deepens. This cutaneous discolouration then makes its appearance in the chest, between the ribs, in the face, the neck, the lower extremities, and lastly, in the upper. The colour appears to depend on the decomposition and infiltration of the animal fluids, especially the blood, into the skin. In the neck and extremities it is observed to be more marked in the situation of the large venous trunks; and sometimes, indeed, the course of the superficial veins is accurately traced out by dark greenish blue lines. This change in the colour of the blood infiltrated into the tissues may be owing to the action of sulphuretted hydrogen from decomposition on the hæmatosine. Gaseous products are more abundantly formed, not only in the hollow viscera of the abdomen, but within the subcutaneous cellular tissue generally; so that on making an incision, the edges of the skin are rapidly forced apart or everted. The reaction of this confined gas accounts for the escape of alimentary and fæcal matter from the outlets:—as also for the escape of blood *some days after death* from wounds involving any of the veins.

This *post-mortem* hæmorrhage requires one or two remarks. Its occurrence formerly gave rise to the most superstitious notions, and even in the present day it often induces a coroner's jury to suspect that

homicide has been committed. In order to explain this, and some other apparently vital phenomena, connected with the dead body, we must refer to those spontaneous changes which commence soon after death. When a person has died suddenly from violence or disease, it often happens that within a short period afterwards, the whole of the cavities, including the veins, arteries, and cellular tissue, become distended and emphysematous, from the considerable extrication of gas which ensues. The gas, collected in the abdomen, pushes back the diaphragm, in consequence of which, mucus issues from the mouth and nostrils; the face becomes swollen, the eyes bright and prominent, and the pupils contracted, owing to the blood having been forced back to the head and neck, by the emphysematous state of the abdomen and viscera. It is owing to this cause that the contents of the stomach are sometimes discharged, escaping into the trachea, or externally by the mouth. That which, however, more immediately concerns us at the present time, is the development of these gases within the heart and vascular system, in consequence of which blood is forced out of a wound made in a vessel before death, long after the phenomena of life have ceased. When an attempt has been made to bleed a person immediately before death, without success, and the operator has neglected to secure the opening, it frequently happens that some hours after death a large quantity of blood escapes by the wound,—conveying to those, who are uninformed on these matters, the idea that the person had again come to life, but had died from the bleeding. An accident of this kind gave rise to considerable discussion, on the occasion of the inquest held at Oldham, on the body of John Lees, killed in the Manchester riots, as also in the case of the Crown Prince of Sweden, who was suspected to have been poisoned. A similar flow of blood may take place from a large incised wound, made recently before death. This post-mortem hæmorrhage is facilitated by pressure, and hence arose the ancient test of guilt; viz. the touch of the murderer.

In drowned subjects so much gas is evolved during putrefaction, that it has given rise to changes in the position of the body. Devergie states that, owing to this, it has been found necessary firmly to secure such subjects to the tables in the Morgue, and other receptacles for the drowned, in Paris.

It is in the cranium that the gases experience the greatest resistance to their escape: thus the eyes become pushed forward and protruded; and Devergie met with several instances, in which the cerebral substance, in a state of putrefied liquid, had been forced into the jugular veins, where from its physical characters it might have been easily mistaken for pus. During these changes, various discolourations take place on the mucous surfaces of the internal organs, which often closely simulate the effects of disease or poison.

These changes are especially observable in the stomach and intestines. The mucous membrane of the stomach may be found of various tints—from a red brown, becoming of a brighter red by exposure to the air, to a deep livid purple or slate colour. Where the organ is in contact with the spleen or liver the lividity is often well-marked and clearly defined through all the coats. The peritoneal tunic is of a greenish hue, and the course of the superficial vessels is marked by greenish brown lines. Dr. Yelloly has clearly pointed out, that unless great caution be used, these spontaneous changes which are the result of putrefaction, may be easily mistaken for the effects of irritant poison. Most of these appearances are due to transudation. There are no rules that I am aware of will always enable us to distinguish such cases. Much must depend on the progress of putrefaction, and the period after death at which the body is examined.

We may presume that the redness has taken place during life, and is not a result of post-mortem changes—1. When it is seen soon after death; 2. when it is met with in parts not dependent, nor in contact with other organs gorged with blood; 3. when it is accompanied by a considerable effusion of mucus or lymph, as by ulceration, corrosion or destruction of the coats of the viscera. When the body is not inspected until a long period after death, it is exceedingly difficult to distinguish these pseudo-morbid appearances from those depending on the action of poison. It is, therefore, better to withhold an opinion, rather than to express one which must be purely conjectural.

It is impossible to assign a fixed period at which the effects produced by irritants are destroyed by the process of putrefaction. If the poison be of an antiseptic character, and the body have been speedily buried, a decided redness of the stomach, as a result of inflammation, may be perceived after five or six weeks. The longest period at which I have been able to distinguish the effects of arsenic on the mucous membrane was in the case of a child whose body had been interred for a period of twenty-eight days. Of course, when the inflammation is only slight, it will be much more speedily obliterated, or merge in the redness caused by transudation.

The effects of gravitation in leading to a discoloration of the viscera in the recently dead body, must not be overlooked. The

experiments of MM. Trousseau and Rigot, have determined that the simple effects of gravitation will produce a livid or even red appearance of all the dependent portions of the alimentary canal. This *cadaverous congestion*, as it may be termed, has been long known to exist in the lungs; but it does not appear to have excited sufficiently the attention of pathologists, in respect to the alimentary canal. It has been especially remarked by Andral and others, in the small intestines, particularly in those portions found within the cavity of the pelvis; and this last-mentioned pathologist noticed, that in a subject placed with the face downwards soon after death, the anterior parietes of the stomach became strongly reddened. As this effect of gravitation ceases so soon as the blood coagulates by the cooling of the body, so does it follow that where the body has been a long time in cooling, it will be much more strongly marked.

The mucous membrane of the stomach and duodenum often presents, during putrefaction, a yellowish or green tinge, depending on the transudation of the bile, or the colouring matter of the fæces contained in the colon. This must not be mistaken for the appearance of poisoning by the mineral acids. There is, in these cases, no softening or corrosion, and the fauces and œsophagus are not implicated, as they are in poisoning. So, again, melanosis in the stomach—*i. e.* a deposit of black colouring matter beneath the mucous coat—might be mistaken for the effect of sulphuric acid; but melanosis is unaccompanied by any marks of inflammation in the mucous membrane beneath, and is always seen in well defined spots.

Among the *external* changes produced by incipient putrefaction, I have already mentioned a change of *colour* in the *skin* covering the abdomen. This it was stated became of a bright green hue, gradually deepening and extending to the skin of the whole of the cavities. I should here mention to you that this has been regarded, by M. Deschamps, as a most certain sign of death, and one better fitted than any other to guide us in determining the reality of death. This sign, however, is not available under common circumstances, until three days after death, and it is scarcely possible that a well-informed practitioner should require to wait so long in order to express an opinion. M. Deschamps has laid down the following rules respecting this green colour acquired by the skin of the abdomen :—A greenish blue colour, extending uniformly over the skin of the belly, is the only real and certain sign of death. 2. The periods at which this sign appears varies much; but it commonly takes place in about *three days*, under favourable circumstances of warmth and moisture. 3. Although discoloration of various kinds, and from various causes, may occur in other parts of the body, the characteristic mark of death is always to be found in the abdomen. 4. Apparent death can no longer be confounded with real death; the abdomen never becoming coloured green or blue, in any case where death is only apparent. 5. This colouring of the abdomen, the appearance of which may be artificially hastened, entirely prevents the danger of premature interment. 6. There is do danger to public health from keeping a body until the appearance of this characteristic sign of death.

Upon the application of these rules to practical purposes we shall have something to say hereafter.

There are some facts connected with the progress of putrefaction as it takes place in the atmosphere, under water, and in the earth, which are of interest to the medical jurist. To these we shall now proceed to direct our attention; and first, of putrefaction as it takes place under exposure to air.

*Putrefaction in air.* — It will first be proper to allude to the conditions which are requisite for the establishment of this process. Firstly, putrefaction cannot take place in the *living* body; for it is in resisting the access of this process that the power of *life* is chiefly manifested. Some have conceived that putrefaction might begin under a diminished state of vitality, as where a person is about to perish from a slow and wasting disease: they have thus explained the peculiar odour perceptible in the breath and perspiration of many dying individuals, some hours previous to dissolution. But it is very probable that these exhalations may of themselves be of a morbid nature: at any rate, it is certain that so long as *life* remains in the body, no phenomena resembling those of putrefaction in the dead are observable. It is unnecessary to make any remark in this place relative to local gangrene; since, although this may take place in the *living* body, it is only observed in a part already deprived of life, and does not involve the whole of the body.

In some cases, before dissolution, the breath has been observed to be luminous: this has been ascribed to the evolution of phosphorus, which is also said to have been distinctly recognised by its odour. It would appear also, from good authority, that the countenance of a dying person has, on more than one occasion, become distinctly luminous in the dark. The cause of this phenomenon is unknown, and, so far as I am aware, it has been only in phthisical cases that this evolution of light from the countenance, shortly before death, has been witnessed. But the dead human body may become luminous under incipient decomposition. A remarkable case of this kind

occurred a few years since, in the dissecting-room of the Webb Street School. The greater part of a subject appeared perfectly luminous in the dark. The cause of this evolution of light in the dying and dead, is not well ascertained: in the dying it may possibly be owing to certain chemical changes analogous to decomposition, commencing during life; while, in the dead, it may be due to the production of luminous animalcula. These singular facts, which have only been observed of late years, will account for many of the superstitions which formerly existed.

*Conditions.*—The chief conditions for the establishment of putrefaction, are, 1. a certain temperature; 2. the presence of moisture; and 3. the access of air.

1st. *Temperature.*—The process is found to go on most favourably in a temperature varying from 70° to 100°. It will commence, other circumstances concurring, at any temperature above 50°; but at 32° it is wholly arrested. The body may thus be preserved a considerable time in snow; but if, after removal, it be exposed to a temperature between 70° and 100°, the ordinary putrefactive changes are found to take place with more than their usual rapidity. A low temperature is said to arrest putrefaction by congealing the moisture within the animal body; but this explanation is not of itself sufficient, since a body at 33° has no more tendency to putrefy than one at or below 32°. The true reason seems to be, that caloric is essential to the combination of the gaseous elements of the body, as well as to the existence of the gaseous products resulting from their union.

At a high temperature again, *i. e.* about 212°, putrefaction becomes arrested. The soft animal solids lose their water, become hard and brittle masses, and may now be exposed to the atmosphere without undergoing any further change. A heat between 100° and 212° may also speedily put a stop to the process, by causing a rapid evaporation of the water contained within the solids. They become thereby dried and coagulated. Thus it is that the bodies buried in the hot and arid sands of Egypt are dug up, many years after interment, in the state of mummies; putrefactive decomposition having been long since arrested.

Light has not been found to have any effect on the process.

2d. *The presence of moisture.*—Unless the animal substance be impregnated with water, or moisture, it is impossible that putrefaction can take place. The animal solids commonly contain sufficient water for the spontaneous establishment of the process. According to Magendie, the liquid matter is to the solid in the human body, in the ratio of five to one—five-sixths of the body being liquid. The organs differ much from each other in respect to the rapidity with which they putrefy, according to the quantity of liquid contained in them. Thus the brain and the eye are in this respect contrasted with the bones.

If the organic substance be deprived of its water by any means, putrefaction is arrested; and Gay Lussac found that animal matter might be preserved for a very considerable period, simply by suspending it under a bell-glass, placed in a dish of fused chloride of calcium. Here is a specimen of albumen deprived of water. It has been kept in this state for a period of ten years, during which time it has been exposed to air and a high temperature, without undergoing putrefaction.

An excess of water tends to counteract the process: thus, by allowing a current of water to fall on animal matter, it may be preserved for a length of time. Water appears to act in putrefaction as it does in numerous other chemical changes, by its dissolving power. It brings the minute particles of organic matter within the sphere of their mutual attraction. In excess, it seems to retard putrefaction by merely cutting off the access of air.

3d. *Influence of air.*—Putrefaction may take place to a slight extent independently of air, but the process is soon arrested; and thus bodies sealed permanently in leaden coffins, may be found perfect and identified after very long periods.

Air operates chiefly by its free oxygen combining with the animal elements, and forming gaseous and liquid products. The only limit to this process of decomposition under a free supply of oxygen, is the loss of water by evaporation. Nitrogen, the other element of air, has no influence; it appears to be decidedly antiseptic, so that animal matter may be preserved in it for a very long period without change, although heat and moisture be present. It is partly owing to this circumstance that the bodies of infants, exposed to the soil and atmosphere of privies, are very slow in putrefying: nitrogen being a predominant element in the air of these localities.

In gaseous mixtures, it is necessary to putrefaction that the oxygen should be *free* as in the atmosphere, and not chemically united to any other element. Thus carbonic acid and the deutoxide of nitrogen, especially the latter, since it will not admit of the approach of free oxygen, act as most powerful antiseptics. In the course of experiments on the properties of these gases in retarding putrefaction, I found in one that a large piece of fresh muscle as preserved effectually in a bell-glass of deutoxide of nitrogen, over water, for eighteen weeks; in a second experiment,

for nineteen weeks; and in a third, performed in 1842, for a period of thirty-two weeks, or two hundred and twenty-four days, under all the variations of temperature, and in an atmosphere saturated with humidity. In some parallel experiments with air and oxygen, putrefaction had gone on to a full extent in eight or ten days. These facts shew that oxygen in a free state is eminently necessary for the destruction of the soft parts of the body by putrefaction.

The influence of the atmosphere is not merely confined to its affording oxygen. It modifies putrefaction, according to its dry or humid condition, and according to its state of rest or motion. *Dry* air retards putrefaction, since evaporation is increased. *Humid* air accelerates the process, by giving rise to an opposite effect. Air *in motion*, as a brisk wind, retards the process; since, *cæteris paribus*, evaporation is greater. Air *at rest*, as the calm still atmosphere of a close apartment, is, on the other hand, very favourable to putrefaction.

As a summary of these remarks, it may be observed that the conditions most favourable to putrefaction in animal matter, are a temperature of about 70° in a humid and tranquil atmosphere.

It is worthy of remark, that when putrefaction has once begun in a part, it rapidly extends itself throughout the whole body. It seems as if the first products acted as a kind of ferment, to induce chemical changes throughout the mass. On this principle, the contact of putrefied with sound animal matter will rapidly cause its decomposition. So the contact, or even the proximity, of one subject in a state of putrefaction to anything which is fresh, will speedily determine decomposition in the latter.

*Modifying conditions.*—There are many circumstances which modify the progress and duration of this process, to the chief of which it will be proper to direct our attention:—

1. *Age.*—The bodies of infants and aged persons—all other circumstances being equal—decompose more readily than those of adults. In regard to infants, this is important to remember, as in every case of infanticide the medical witness may be required to state the time at which the death of the child probably took place.

2. *Sex.*—The bodies of females putrefy more readily than those of males. The cause of this difference is not by any means apparent, and probably it is inconsiderable.

3. *Peculiarity of constitution.*—Difficult as it may be to understand, how constitutional peculiarity can influence the putrefactive process after death, it nevertheless appears to be well established that such an influence is exerted. In individuals of the same age and sex, dying of the same disease, and exposed in the same apartment, or interred in the same soil, putrefaction will advance with different degrees of rapidity. The cause probably rests upon differences in the elementary constituents of our organs, which cannot be detected by the ordinary processes of chemical analysis.

4. *State of the body.*—Fat subjects are observed to undergo putrefaction more readily than those which are thin and emaciated. This probably depends on the greater quantity of blood contained in them. Connected with the state of the body, we may also mention the influence which wounds or bruises, or mutilations of any kind, have over this process. Those parts which at the time of death are affected by contused or incised wounds, ecchymosis or extravasation, rapidly pass into the state of putrefaction. Thus in examining bodies which have been subjected to violence during life, contusions and ecchymoses will appear greatly aggravated, unless the examiner be aware that such parts become more speedily decomposed.

5. *Influence of disease.*—Those subjects which have been cut off by acute disease putrefy more readily than those which have died from chronic disease. Asphyxiated subjects are observed to putrefy with great rapidity, when the process has once commenced, owing to the large quantity of blood existing in the large venous trunks. It is said that the bodies of those who perish from typhus or other adynamic fevers, readily undergo decomposition; but this remark requires further confirmation. As a general rule, those parts of the body which, at the time of death, are irritated, congested, or inflamed, speedily putrefy.

In death from some kinds of poison, as from those belonging to the narcotic and narcotic-acrid classes, the process is stated to advance with great rapidity. Putrefaction is said to be accelerated in cases of death from opium and prussic acid; but observations are here conflicting, and there is good reason to believe, so far as these two poisons are concerned, that this inference has been two hastily drawn.

Within a very recent period, it was believed that arsenic and many other mineral poisons, when they operated fatally, accelerated the putrefactive process. Evidence of poisoning, both positive and negative, was for many years deduced from the state of the body of an individual who had died by poison. So far from arsenic accelerating putrefaction, numerous facts now show that it possesses the very opposite property, namely, that it is highly antiseptic. The effect of arsenic must have been the same formerly as now; and it is, therefore, difficult to conceive by what sort of reasoning, a property, diametrically opposite to that

which it is known to possess, could have been assigned to it. Such, however, was the fact; and it ought to serve as a warning against all hasty generalizations in medical jurisprudence.

*Putrefaction in water.*—The process here takes place more slowly than in the atmosphere, owing to the low temperature, and the free access of air being cut off. The skin covering the palms of the hands and the soles of the feet is found thickened, white, and sodden from imbibition, when the body has remained several days in water. Owing to this cause ecchymosis resulting from violence during life is not always apparent in a body removed from water; it is only when the skin has lost the greater part of the water by evaporation, that ecchymosis and other marks of violence begin to show themselves. The influence of air upon the skin of a subject which has been for some days submerged is chiefly seen, after its removal from water, in the face and thorax. In a few hours, if the temperature of the atmosphere be moderately high, the face will commonly be found livid and bloated, and the features so distorted that the individual will be with difficulty recognizable. The change chiefly consists in the skin becoming first of a livid brown colour, and afterwards passing to a deep green. According to Briand, when putrefaction takes place in bodies which have been lying in water, the discoloration of the skin is first seen in the face and lower part of the neck. It then spreads successively over the shoulders, chest, and lower extremities. In subjects exposed to air the discoloration is first seen in the abdomen, and thence spreads to the chest, neck, face, and upper and lower extremities. These discolorations are chiefly apparent in those parts which are freely exposed to the atmosphere. They are not commonly found in those surfaces which have been in close contact, as the axillæ and upper and lower extremities, where the former have been closely applied to the sides of the trunk, and the latter have remained in close proximity to each other. For the same reason the discolorations are not commonly met with at the back of a subject, or in those parts where the body has been closely wrapped in clothes.

Gaseous putrefaction takes place in bodies immersed in water, as well as in those which are exposed to air. The abdomen and chest, as well as the cellular membranes, become thereby distended—the body acquires buoyancy and rises to the surface. It requires but very little expansion in the cavity of the abdomen for this effect to follow, since the dead human body is only a slight fraction heavier than its bulk of water. The position in which the dead human body floats is commonly with the abdomen or back on the surface, and the head with the upper and lower extremities depending. Females, it is said, are more commonly found floating with the abdomen upwards. The period of time required for the body to rise to the surface, from gaseous putrefaction, must depend on many circumstances. It is stated to happen usually from the third to the fifth day after immersion. The gases may be liberated and the body sink; they may be again generated and it will rise. The facts connected with the buoyancy of the dead body became of importance in the trial of Spencer Cowper (1699), for the alleged murder of a female.

If the dead body have been immersed for some weeks or months, the skin will be found of a deep blue or green colour, the muscles soft and discoloured, or the fatty parts of the body may have undergone a transformation into adipocire, a peculiar saponaceous compound, the facts connected with the production of which will be a subject for future consideration. Ultimately the soft parts will be washed from the bones and the skeleton separated. Some attempts have been made to generalize on the phenomena of putrefaction in water, in order to enable us to say for how long a period the body may have been immersed. No satisfactory data, however, have been obtained to guide us in this inquiry. The changes which take place are modified in their degree and the rapidity of their progress by numerous and often inappreciable causes.

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### PERIODICAL HÆMORRHAGE FROM THE BOWELS.

Mr. Harrison narrated (at the Sheffield Medical Society) the case of a man, aged 47, who six or seven years ago was affected with pain in the head and vertigo, which was relieved by an involuntary purging. He had not noticed the stools, until his attention was called to them by a fellow-workman. He then found that he had parted with a quantity of blood. This discharge came on monthly, and was always preceded by head-symptoms, which disappeared after the discharge, which amounted to from eight to sixteen ounces. Rather more than a year ago he had no discharge of blood for three months, and until it reappeared he was very ill. His health is generally very good when the discharge is regular in its return. A sister was similarly affected after the cessation of menstruation up to the time of her death, which occured at fifty years of age.—*Provincial Medical and Surgical Journal.*

## ON PARACENTESIS THORACIS.

*With Cases,*

By H. M. Hughes, M.D.
Assistant Physician to Guy's Hospital.

[Continued from page 451.]

Case IV.—*Pneumothorax from external injury—Subsequent pleuritic effusion—Salivation—Paracentesis—Great relief and improvement of health—Result unknown.*

J. P., æt. 28, a strong labouring man, was admitted under one of the surgeons of the hospital for an injury to the chest, July 9th, 1845. The next day I was requested to see him, and was informed that, whilst he was carrying a sack of flour, his load accidentally overpowered him, and that he fell backwards, striking his side against the kerb-stone; that he had been carefully examined, without the detection of any fracture, but that during the preceding night he had been in a state approaching to delirium tremens, for which a grain of opium, and two pints of porter, his ordinary beverage, had been prescribed with great advantage. It was then understood that the accident occurred on the preceding day, just before his admission, but it was afterwards ascertained that it had in truth happened a week before. When visited his face was pale and his skin cool, his tongue clean and moist, and his pulse frequent, feeble, and compressible. He had a little cough without expectoration; his respiration was not hurried, but he complained of pain on moving, on breathing, and on pressure being made in the left hypochondriac region, in which there was some slight fulness and hardness. Excepting quite at the base of the left infra-scapular region, the chest was quite resonant on percussion, and perhaps rather more so than natural, especially in the left lateral and hypochondriac regions. Throughout both sides of the thorax could be heard a little mucous rattle, with slightly prolonged and sonorous expiration, characteristic of bronchial obstruction and emphysema. With this exception, and that of a very little, and rather doubtful muco-crepitating rattle at the base of the left lung posteriorly, and an occasional, but distinct, metallic resonance of the breathing, voice, and cough, heard especially over the left lateral region, which, under all the circumstances of the case, it was thought might arise from the stomach, the chest appeared to present no evidence of disease. Believing the accident to have been quite recent, I merely ordered him to be kept quiet, to have a flannel bandage applied, and to take a little Julep. Ammoniæ.

As a surgical case I did not again see him till I was requested to do so ten days afterwards, when I found his local signs much altered. He still had no febrile excitement and no dyspnœa, and the pulse was still feeble and frequent; but the left side was now dull upon percussion, as high as the nipple before, and the scapula behind; inferiorly it was very little raised, and was without respiratory murmur. Metallic respiration, cough, and voice, were now more distinct and constant, and the splashing of fluid was very obvious. The heart was not displaced, and though the infra clavicular region was resonant, no part of the side was tympanitic upon percussion. The left side did not measure more than the right. Ordered—

> Hydrarg. Chlorid. Opii, aa. gr. j. fiat Pil. maneque sumend. Applicet Emplastr. Cantharid. ampl. lateri sinistr.

The pills were continued night and morning till his mouth was sore, and then repeated only every night; the blister was repeated: but after being under the influence of mercury for some considerable time, and the application of several blisters, the dulness of the side continued, or rather increased, and the splashing of the fluid gradually became less noisy. The breathing was scarcely hurried except upon exertion.

In consequence of the supposed injury to the lung itself, it was thought desirable not to draw off the fluid, but for the time to leave the case to nature, and to keep up his general health. He was now allowed to get up and go into the air, and to take meat and porter. Blisters were occasionally applied to the side, and he took the iodide of potassium and liq. potassæ in bitter infusion twice or three times a day After this plan of treatment had been continued for a month, the chest was

found on Oct. 17th to present the following signs. The left side measured three-quarters of an inch more than the right; was scarcely at all raised during inspiration; was dull upon percussion, as high as the nipple before, and over the whole of its posterior surface. There was no separation or filling up of the intercostal spaces perceptible, as although very considerably reduced in flesh, he was still in good condition. The respiration was absent or distant, the voice was indistinct, and tactile vibration was absent inferiorly. The respiration was puerile below the clavicle, and bronchial with bronchophonic voice in the left interscapular region. The heart was heard and felt most distinctly on the right side of the sternum. No metallic ringing of the breathing of the voice, or cough, could be now distinguished; the splashing of fluid was still audible, though it was much less loud than formerly, and gave the impression to the ear of a cavity nearly full. He usually lay upon his back, with the shoulders slightly raised, but could lie upon either side without inconvenience. The breathing was not hurried excepting when he exerted himself.

After consulting with Mr. Cock, and weighing the probable advantages and evils of letting out some of the fluid, it was resolved to explore the chest, and, if the liquid flowed freely, to withdraw some of it. Fifty ounces of turbid sero-purulent fluid were accordingly removed in a full stream, without the admission of air, or any act of coughing, but with the effect of causing slight temporary faintness. It was then thought desirable to stay the stream, and to allow the lung time gradually to expand. Plaster and a bandage were applied as usual, and he was desired to keep his bed, and to refrain as much as possible from talking for twenty-four hours. The next day he felt no inconvenience from the operation, but was relieved, and felt lighter, and the heart was removed from the right side to the posterior surface of the sternum. The pulse numbered 96, and the respirations 28. He was allowed to get up, and was ordered—

Julep. Ammon. Acetatis c. Potassæ Acetatis, ʒss. ter die sumend.

Oct. 29th.—He felt much better, and had *much* improved in appearance since the operation. There was no increased sound on succussion; the left side was still dull, but had decreased in size. Forty-five ounces of fluid were this day removed without any accident, or inconvenience; and three days afterwards a blister was again applied to the side.

Nov. 10th.—He was much improved in appearance, and said that he felt much better. He was evidently getting stouter, and he could ascend the stairs with much less inconvenience than before the operation was performed. The side was still dull upon percussion, but there was now, and for some days there had been, no indication of the presence of air in the pleura. Forty ounces of fluid were therefore withdrawn, and two days after he was allowed by his own wish formerly expressed, to go into the country for a short time, but promised to return to the hospital at the end of a fortnight. He has not been seen there since. I am therefore unable to state anything of his condition since the last report on Nov. 10th.

This case, remarkable alike in its origin and its progress, excited considerable interest. Notwithstanding the metallic resonance observed when he was first seen, I could not, in consequence of the absence of the ordinary symptoms of many of the physical signs of the complaint, and of the evidence of fractured ribs, persuade myself that the patient really suffered from pneumothorax. It is not improbable that the absence of the ordinary signs and symptoms arose from the previous existence of a considerable amount of emphysema of the lung, which prevented the collapse of the organ taking place suddenly, and consequently allowed the air to escape into the pleura only very gradually. When the presence of fluid, as well as of air, was detected in the pleural sac, the patient was immediately ordered mercury; under the influence of which he was kept for a considerable time. Blisters were also repeatedly applied, but without any beneficial effect. The fluid effusion progressively increased. The iodide of potassium was afterwards prescribed with liquor potassæ, and the blisters were repeated occasionally, but with a similar result. The fluid still increased, and the general health was evidently failing. It now

became an interesting question to decide whether the original lesion of the lung had healed. The operation of paracentesis had been hitherto deferred from a fear of rendering the opening in the lung permanent by the admission of air through the bronchial tubes into the pleura in proportion as the liquid effusion was drawn off. It was believed that the aperture had already healed.

There now existed no evidence whatever of the existence of any opening; it was therefore thought desirable to try the effect of drawing off a portion of the fluid, and thereby to test the actual condition of the lung. The operation was perfectly successful. The patient was relieved; no air appeared to gain admission into the pleura; that which was already there on the contrary diminished, and his general health improved. The operation was therefore twice repeated, and with similarly beneficial effects, although on each occasion a comparatively small quantity of fluid was withdrawn so as to allow the lung gradually to expand and to prevent any great pressure being exerted by the air upon the newly-formed cicatrix which it was now presumed actually existed in the lung and pleura. It is greatly to be regretted that, having been allowed to go into the country for a fortnight "on leave of absence," the patient has not yet (March 9th) returned, as it is more than probable that the fluid will again accumulate in as large or a larger quantity than before, and that the lung will become permanently compressed: under other circumstances the probabilities of its restoration appeared considerable.

CASE V. — *Pleuritic effusion; Salivation; Paracentesis; Mercury continued without effect; Paracentesis again performed; Cure.*

J. N. aged 25, a strong Irish labourer, was admitted into the hospital under my care, Jan. 16th, 1846. He had been in the hospital about four months before for pleuritic effusion of the right side, and had been discharged in three weeks free from complaint, with the exception of some remaining dulness and pleuritic creaking posteriorly; after treatment by antiphlogistics, mercury, and blisters (see Case in the present paper). He again presented himself among the out-patients, and was directly warded. He said that after leaving the hospital he had returned to his work, and had remained perfectly well for about a month or six weeks; but that about two months ago he was attacked with cough and pain of the left side. The pain soon ceased spontaneously; but the cough had continued more or less to the present time. It did not, however, prevent him continuing at his work, till nine days before his admission, when gradually increasing dyspnœa compelled him to desist: no treatment had been adopted, and no advice had been sought.

Upon admission his face was flushed, and his skin rather hot; his tongue loaded, but moist; the pulse 112, small and feeble, the respirations 32; he had no pain when quiet, but the act of coughing, which was frequent, and accompanied with a scanty mucous expectoration, was attended with pain of the left side. He was able to lie flat in his bed, and to turn to either side without inconvenience. Upon inspection of the chest the left side appeared evidently more rounded and fuller than the right; the ribs were imperfectly elevated during inspiration, and the intercostal spaces were almost upon a level with the ribs, so as to present nearly an even surface; they also afforded a sense of vibration rather than of fluctuation to the finger when the parietes were struck. The left side was dull upon percussion as high as the third rib, and to the centre of the sternum anteriorly, and over the entire posterior surface. Tubular breathing, increased shrillness, not loudness, of the voice, and a decrease, not an entire absence, of tactile vibration were observed in the greater portion of the dull expanse. But hoarse and puerile respiration was audible, and tolerable resonance upon percussion could be elicited in the infra-clavicular and acromial regions. The impulse of the heart could be felt on the left side close to the sternum, but it could also be felt at least as distinctly on the right of the sternum, and much more distinctly at the scrobiculus cordis; its sounds and rhythm appeared to be natural: the comparative size of the two sides was not ascertained. With the exception of some bronchial rattles, the right side ap-

peared to be natural; the posterior dulness which existed when he left the hospital had disappeared. Ordered—

Venæsect. ad ℥vj.; Pulv. Rhei c. Calom. gr. xv. statim sumend.; Pil. Antim. Opiat. c. Hydrarg. Chlorid. gr. iss. 6ta quaque hora sumend. c. Haustu ex Julep. Ammon. Acetatis. Applicet. Empl. Cantharid. magn. lateri sinistro.

To these remedies were added the next day another blister to a space not occupied by the former one, a drachm of the strong mercurial ointment to be rubbed in every six hours, and, as his bowels had not been moved, a black draught to be taken directly.

18th.—A third blister was applied along the left side of the sternum, and the bowels having been moved and the gums becoming already tender, the remedies were continued.

19th. — Salivation established; bowels relaxed.

Contr. Pil. et Ung. sed Capt. Mist. Cretæ, ℥iss. c. singulis dosib. pilulæ. Omitt. Mist.

Jan. 20th.—He had now been placed fully under the action of mercury; a blister had been applied on three successive days, and each had risen well, so that nearly the entire surface of the left side had been covered; his bowels had been freely acted on, and latterly diarrhœa had been troublesome: still there existed no evidence of the decrease of the effusion; on the contrary, there appeared to be direct evidence of its increase. The dulness now existed up to the very clavicle; the heart's impulse was distinctly felt between the fourth and fifth ribs on the right side, and was barely perceptible on the left side of the sternum; and though the breathing was not more hurried, the countenance was depressed, pale, and of a leaden hue, and the expression was anxious; the tongue was loaded from the action of the mercury; and the pulse was feeble, frequent, and compressible. It was therefore thought desirable to draw off some of the fluid, so as to secure the future expansibility of the lung, if he should recover; but of this there appeared now to be some doubt, as his case presented considerable danger. The exploring needle was accordingly introduced by Mr. Cock, and the presence of an abundance of serous fluid having been ascertained, a small trochar was passed into the chest, and forty ounces of clear dark-coloured serum was withdrawn. He was rather agitated by the operation, and coughed considerably while the fluid was being drawn off. During the forced expiration following the cough, there was a tendency for the air to enter the chest. The canula was consequently removed, though much more fluid might under other circumstances have been obtained without the admission of any air. He did not say that he felt relieved by the operation. A piece of lint and plaster, and a flannel bandage, were applied, and he was directed not to talk.

Contr. Pil. et Unguentum.

℞ Potassi Iodidi, gr. ij.; Iodini, gr. $\frac{1}{8}$; Aq. fontanæ, ℥ij.; M. ft. haustus ter die sumend.

The day after the operation his appearance had considerably improved, and his natural colour had in some measure returned to his face; but he did not acknowledge that he felt much better: as the bowels were relaxed considerably, and he was evidently very low-spirited as to his condition, ordered—

Enema Amyli, c. Tr. Opii, ♏. xx. statim injiciend.; Hydrarg. c. Creta gr. ij.; Pulv. Ipecac. C. gr. iij.; ft. Pulv. 6ta quaq. hor. sumend. Contr. Unguent.

Jan. 23d.—The bandage was removed, and the chest re-examined. The heart was not nearly so distinctly felt on the right, and was rather more perceptible on the left of the sternum. The left side of the chest was now resonant upon percussion above the level of the nipple as he lay and when he sat up in bed, and the respiratory murmur was indistinctly audible in the well-sounding parts; but dulness upon percussion, distant respiration, or tubular breathing, shrillness of the voice, and decrease of the parietal vibration as appreciated by the hand, still existed in the lateral and posterior regions. The diarrhœa had ceased, and the tongue was less loaded.

Rep. Pulv. Contr. Unguent. et capt. Mist. c. Potassii Iodid., &c. ut antea præscripta.

Jan. 29th.—Up to this date he had remained nearly stationary. As he

had complained of the soreness of the mouth, and he was fully under the action of mercury, the pills had been directed to be taken only night and morning, and the ointment to be used only every night; and as he complained much of weakness, infusion of gentian had been substituted for the water in his mixture; and he was allowed plenty of beef-tea and arrow-root. He breathed without difficulty, but though the action of mercury had been constantly kept up for ten days, and though there existed no evidence of any increase of the fluid, there was no evidence of its decrease.

The line of dulness was now as high as it was two days after the operation. The trochar was therefore again introduced, and thirty ounces of fluid removed without any fear, or, I believe, a single act of coughing on the part of the patient, and without any tendency to the ingress of air into the pleura, in consequence of the body being inclined as much as possible towards the opening. The fluid was clear, dark-coloured serum as before; formed a transparent gelatinous coagulum upon cooling, became semisolid upon being heated, and was of specific gravity 1030.

Pergat.

31st.—The bandage was removed; the entire anterior surface of the left side of the chest was now resonant, and a portion of the lower part was tympanitic upon percussion (probably from the stomach); pleuritic rubbing was now heard in the infraclavicular and mamanary regions, and a thrill from surrounding vibration, rather than the direct impulse of the heart was perceived upon the right of the sternum; though the impulse was scarcely more distinct upon the left side. The posterior part of the lateral and axillary, and the whole of the posterior regions, were still dull upon percussion, whether he sat up in bed or lay on his stomach; no pleuritic rubbing was heard posteriorly, and but little tactile vibration was yet there observed, though the respiratory murmur was now indistinctly heard over the greater part of the side; his mouth was still sore, but his tongue was clean.

Rep. Pulv. quaque nocte. Omitt. Unguent. Contr. Mist. To have some meat.

Feb. 3d.—Had continued to improve up to this time; no fresh accumulation appeared to be going on, but the posterior parts of the left side were still dull.

Rep. Pulv. capt. Decoct. Cinchon. c. Liq. Potass. ℥xv. ter die. Applicet. Emplastr. Cantharid. regioni subscapulari.

10th.—Had been up; complained principally of hunger and of debility; improving in every respect; dorsal dulness decreasing, and the respiration becoming more audible, being now heard at the very base of the lung. The impulse of the heart was felt a little to the inner side of the left nipple, and was not perceptible on the right side of the sternum.

Pergat. To have more meat, and some porter.

In this case I was, from the facility and rapidity of his cure on a former occasion, fully inclined to give a fair trial to the ordinary remedies which had been previously found beneficial; but, as after he was perfectly under the influence of mercury, and three blisters had been applied, the fluid was evidently increasing rather than decreasing, and as I could not tell how long the effusion had existed, as he varied in his statements to different persons, I did not feel justified in deferring the operation. He either did not feel, or would not allow that he felt, so much relieved as might have been expected by the removal of forty ounces of fluid from his pleura, though his appearance the next day amply proved the benefit which had been conferred. The want of the usual sense of relief may perhaps be explained by the fact of his breathing being very little increased in frequency even before the operation. This is the more extraordinary, as it is probable that at that time there were from seventy to eighty ounces of serum at least in the pleura: the entire side was dull, and the heart was pushed over to the right of the sternum. It was also remarkable, though the fact has been observed before, that notwithstanding this accumulation of fluid, and the consequent displacement of the surrounding organs, he was able to lie in any position in bed. May these circumstances be explained by the slow accumulation of the fluid, and the time which was consequently afforded to the right lung, and the

heart, to accommodate themselves to the pressure? The condition is certainly very different when a large effusion takes place rapidly.

The second operation was performed not on account of any urgent symtoms, but because no progress appeared to have been made, notwithstanding the continued action of mercury and the administration of iodine, in the absorption of the fluid, since the former operation. On the former occasion he was a good deal excited; on the second occasion he was perfectly at ease, and very manageable. It may be also observed that in this case the intercostal spaces were on a level with the ribs, though the effused fluid was clear serum. The spaces were not bulging, nor do I ever recollect to have seen them so; whether the fluid contained in the pleura were pus or serum, except in a defined space, when pus had an evident tendency to make its way outwards, when in fact ulceration of the integuments had already commenced.

The patient is yet in the hospital, and cannot be stated to be cured, as he is still very weak, but I trust that before the publication of this paper is completed I shall be able to report him to have been restored to perfect health.

March 9th.—The patient is getting stout and strong, and though dulness still exists on the posterior surface of the left side, there is no reason to believe that there is any reaccumulation of the fluid in the chest, or that the dulness will not slowly disappear altogether; as it did from the right side after he left the hospital on the former occasion.

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### ANATOMY BEFORE THE ACT.

On the 7th of October, 1736, a man and his wife, at Rushel, in Norfolk, "having some words," the man went out and hanged himself. The coroner's inquest found it "self-murder," and ordered him to be buried in the cross-ways; but his wife sent for a surgeon, and sold the body for half a guinea. The surgeon feeling about the body, the wife said, "He is fit for your purpose; he is as fat as butter." The deceased was thereupon put in a sack, with his legs hanging out, and being thrown upon a cart, conveyed to the surgeon's.—*Gentleman's Magazine.*

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## PRACTICAL OBSERVATIONS ON THE VARIOUS FORMS OF DYSPEPSIA.

By Robert Dick, M.D.

Author of a Treatise on the "Derangements, Primary and Reflex, of the Organs of Digestion, with an Addition," "Treatise on Diet," &c.

[Continued from p. 330.]

### Concluding Remarks on Treatment.

1. *The doses of medicines given to persons long subject to dyspeptic derangements should, in general, be small.*

We are apt to suppose that the doses of medicines must be progressively increased. This is far from being always, or even generally, the case. In some instances particular medicines are required at a certain period of life, which, as the constitution changes by years, cease to be needed. Thus, the constipation of youth, if not mismanaged, generally disappears spontaneously, and the laxatives, which were required during several years, may either be entirely dispensed with, or are necessary only occasionally, and in very diminished doses.

Chronic dyspeptics, in the majority of cases, require to have the doses which they bore easily at the outset of their ailments greatly modified in the course of them; not merely because their reduced strength admits not of such violent measures as formerly, but because smaller doses actually produce a greater relative effect. The susceptibility of the organs to the influence of medicine, whether laxative, stimulant, or narcotic, becomes more instant and nice. This result, in the case of diseased organs, is consonant with what we might expect from a study of the organs in health. These, when sound and vigorous, do not readily take on the foreign action which medicines would impress on them; they resist, and sometimes totally elude it; the medicine being transmitted as an almost inert substance along the intestines. The rule, in short, is, that in proportion as the organs are vigorous they are less excitable by medicines, and in proportion as they become weak their susceptibility to drugs augments.

I had formerly a patient for years a victim of chronic dyspeptic derangements, and who, I learned, had at one

time borne large doses of all sorts of medicines, but who at length had such a morbid sensibility as to detect the quality—tonic, sedative, &c.—of the drugs she was taking, even though these were given in the minutest doses. Tonics she detected by their producing a tightness of the temples. A grain of carbonate of iron, taken once or twice a day for two or three days successively, was sufficient to make her complain of the sensation now described, even when purposely kept unacquainted with what she was in receipt of; which, to test the truth of her statement, I disguised in all ways. Sedative medicines, such as conium, hyoscyamus, &c. she detected by a dryness of the tongue. Ten drops of a solution of a scruple of nitrate of potash in an ounce of water produced a feeling of chilliness. Five drops of antimony wine, or the sixth part of a grain of ipecacuanha, caused decided nausea, and sometimes vomiting. Yet, as I have already observed, this lady at one time had undergone severe treatment both by medical men and herself. She was a woman both morally and physically excitable, and her case remarkably confirmed the observations of Broussais: "Si l'on y fait une serieuse attention, on reconnaitra que l'éducation rend les hommes plus attentifs à ce que passe dans leurs visceres, et leur apprend à se sentir d'une manière plus exquise. L'homme stupide et à demi-civilisé a quelquefois les visceres disorganisés avant qu'il se plaigne: l'homme d'esprit et celui qui est livré aux arts d'imagination, est si fidèlement averti du bien être et du malaise de ses organes, qu'il appelle toujours du secours de bonne heure." He elsewhere remarks: "J'ai remarqué dans les hôpitaux militaires, que les gens d'education et ceux dont l'esprit était juste, me donnaient beaucoup moins de peine pour suivre la diagnostique."

I may add, that this lady had acquired, before she came under my care, what I then conceived to be an incorrigible habit of using morphia, from which I could never detach her; and this habit constantly interfered with every measure suggested for her relief. Indeed, I then thought a habit so long formed could not be broken without hazard; but she subsequently came under the care of a homœopathic practitioner, who, more resolute and uncompromising than I, made her total abandonment of opium a *sine qua non* condition of his undertaking her case, and she gave it up; at least, she gave him and myself, when I saw her again about a year ago, to understand that she had abjured it. Yet, with the exception of this reform, she was no better in her health; but this I attribute in part to the inefficiency of the other homœopathic treatment, which, in this, as in every case, is only negatively useful, benefitted, not by what it does, but by what it refrains from doing.

2. *Average length of time necessary for the cure of the more ordinary dyspeptic derangements.* — There is necessarily much vagueness connected with this subject. Broussais, in one place remarks, that to cure, at least to tranquillize, gastric irritation of years, only two or three days of his peculiar treatment were necessary. Dr. Philip's views of the nature and treatment of indigestion are obviously too restricted, being confined to the inflammatory type; but making allowance for this peculiarity, his statements in regard to the prospects and cure of dyspepsia are just. The good effects of treatment in what he calls the second stage of the disease are, he observes, "soon perceived, sometimes in a few days, and, for the most part, within a week or ten days." He adds, that "experience has taught him to despair of no case where the affection of the digestive organs is the original disease, in which change of structure in a vital organ has not made some progress." The writer himself has had patients who had suffered from chronic dyspepsia during six, ten, and more years, some of whom were perfectly cured, and the rest, with few or no exception, experienced amendment. Relief, at least, is usually afforded by judicious and sufficiently long continued treatment. Even in cases in which the digestive organs are too enfeebled to be thoroughly re-toned, treatment is by no means to be omitted, since thereby structural changes may be prevented, or at least postponed; and where such structural changes have already taken place, their progress may, by judicious measures, be indefinitely retarded, and the sufferings which these might otherwise cause be wonderfully modified and soothed, and

DEATH taught to approach his victim with a comparatively mild demeanour, and with slow and peaceable steps. "I esteem it," writes Bacon, "the office of the physician not only to restore health, but to mitigate the colours and torments of diseases, not only when such mitigation of pain, or of a dangerous symptom, may conduce to recovery, but even when all hope of recovery being gone, it may serve to procure a fair and easy passage out of life." (Instauratio Scientiarum, lib. 4.)

3. *Diet.*—There are few points on which we find patients more refractory, and more sceptical, than as to the necessity of a strict dietetic regimen: there is usually something in the dietetic habits of dyspeptic patients which may with advantage be altered. A change as regards quantity, at least, is frequently expedient.

Broussais attributes the fatal issue of many of his cases to the secret disobedience of his patients to the dietetic restrictions which he had imposed on them, or to his own imprudent concession of a greater quantity of food than his judgment entirely approved, in consequence of their clamours and repinings. The writer has met in his own practice with disastrous consequences from similar causes, and has had, alas! too frequent occasion to accuse the facility with which he has yielded to the importunity, ignorance, and prejudices of patients and their friends in reference to diet.

In the biliary complications of dyspepsia, an herbaceous and acidulous diet is peculiarly indicated. This is the opinion founded on experience of Andral, and several other eminent physicians, and my own observations have amply corroborated its truth.

4. *The treatment of chronic dyspepsia must not be too debilitating.*—In the second and third degrees of dyspepsia, whether as regards acuteness or complication, we shall seldom derive advantage from energetic depletion. Dr. Johnson's treatment, by gruelly aliment and evacuants, in the commencement of the cure, is propounded too indiscriminately as to cases, and as to the degrees and stages of dyspeptic derangements. Dr. Philip's remarks on this subject merit attention. "In proportion as the system is debilitated, its healing powers, on which the success of all our means depends, are impaired."

Cases, no doubt, occur, in which, as Broussais remarks, "il est avantageux d'affaiblir encore l'homme faible," but these are chiefly in the first stage and inflammatory type.

5. *Necessity of attention to the confirmative part of the treatment.*—"Many," observes Dr. Philip, "suffer relapses, or remain long in a debilitated state, in consequence of this part of the treatment being neglected." In many cases of chronic dyspepsia, the digestive organs are, after apparent cure, extremely apt to fall into fresh disorder, in consequence of even a very slight dietetic indiscretion; but this tendency diminishes in proportion to the length of time that, by prudence, care, self-restraint, and management, any considerable renewal of the disease is prevented. A course of mild tonics and sedatives, as, for example, of hyoscyamus and extract of chamomile, hyoscyamus and quinine, hyoscyamus and iron, &c., will, in many cases, advantageously wind up the treatment, other medicines being, at the same time, directed to maintain the due action of the bowels.

6. *Herbaceous aliment.*—It is surprising what an efficient adjunct to medicinal treatment herbaceous aliment is in forms of chronic dyspepsia dependent on, and complicated with, a hyperæmic or (sub-) inflammatory condition of the mucous membrane. If the diagnosis has been just, the effect of such a diet is strikingly efficacious, otherwise harm may follow. Herbaceous diet judiciously employed allays many anomalous nervous symptoms, sensibly abates that uncomfortable heat of stomach which persons suffering from this form of indigestion so much complain of, and is a valuable corrector of those four morbid conditions of the mucous membrane *chaleur*, *rougeur*, *tumeur*, *douleur*, which, according to Broussais, characterise gastritic disorder. Under the term herbaceous aliment, I include among other things grapes, apples, pears, strawberries, pomegranates, &c. The best time to employ this aliment is about an hour before breakfast, and in the intervals of meals.

The only inconveniences to be guarded against, on the first adoption

of such a diet by persons long improperly disused to it, are flatulence and fæcal accumulation in the intestines, which, though unpleasant, are void of danger. A little soda and ginger will obviate the first mishap. The latter is to be prevented by making the change gradually, and by careful mastication; and if it occur in spite of these precautions, by recourse to a pill of aloes, capsicum, and quinine. Persistence in the use of this aliment will teach the stomach duly to digest, and the bowels to evacuate it, while various nervous symptoms will vanish under its employment: an unwonted vigour and freshness is felt, and the state of the stomach and bowels are sensibly improved. I know of no derangement of the digestive organs in which a prolonged abstinence from herbaceous articles of food is judicious, or even safe. From such abstinence, on the contrary, I have witnessed the worst effects —foul tongue, ill-tasted mouth, ill-odoured breath, perspiration of a heavy animal smell, blotched skin, scanty turbid urine, stools insupportably fœtid.*

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## VALENTIN ON THE FUNCTIONS OF THE NERVES OF THE ORBIT*.

*Translated from the Latin,*

By John F. France,
Assistant-Surgeon to the Eye Infirmary, Guy's Hospital.

[Continued from page 420].

### Part III.

*The Trigeminal or fifth cerebral nerve—Mode of dividing it within the cranium—Effects of its partial or entire division, particularly as respects the eye—Anæsthesia of face and conjunctiva—Alteration of pupil—Destruction of globe—Pathological indications of its function.*

In order to divide the trigeminal nerve in the living rabbit with the cranium entire—an operation I have myself seen Magendie perform† with the utmost dexterity in two instances—the neurotome should pierce the integuments and bone in a horizontal direction at the same point, immediately in front of the ear, indicated for the division of the motor oculi; and having done this the handle of the instrument is raised 90°, so that its point becomes directed towards the base of the skull. It is then pushed on in a straight line, as far as the soft obstruction of the fold of dura mater: this is passed by withdrawing the instrument a little, and inclining it inwards; and the nerve is then divided by a few horizontal strokes. Except on the wound of the skin, the animal is perfectly quiet throughout the operation until the trigeminal is compressed or cut, when it cries piteously, and the pupil becomes excessively contracted. As soon, however, as the nerve is completely divided the cries cease; and an imperfect division, and irritation of the remaining sensitive fibres, may be pretty certainly inferred from their continuance. The chief danger of the operation consists in the likelihood of injuring the carotid artery, which is in the immediate neighbourhood,—an accident giving rise to much the same symptoms as those before described, as its consequences; and on this account, the precaution must be used of directing the instrument while within the fold of dura mater, somewhat backwards. This is also necessary to avoid making a section of the two anterior divisions of the nerve only, with the omission of the third.

A very sanguinary experiment, and not more instructive, than that just described, is to divide the fifth nerve in the base of the skull, after opening the cranium and lifting up the brain with the fingers, or some blunt instrument. In doing this, the hæmorrhage, arising mainly from the wound of the transverse sinus, is often so great as only to be restrained by the actual cautery; and, owing to the quantity of coagula, the several nerves cannot be satisfactorily seen. In rabbits, upon the trigeminal being touched, there are the same cries; and, upon its compression or division the same contraction of pupil, the same vehement complaints, and insensibility of corresponding parts, as in the former experiment; but the sequelæ of the destruction of the nerve cannot be determined, as the miserable rabbit soon expires. In pigeons subjected to the same experiment, the

* Want of space has compelled us to postpone the concluding part of Dr. Dick's paper until next week.—Ed. Gaz.

† See also Eschricht, de funct. nerv. faciei et olf. org.

extreme pain produced by irritation of this nerve is manifested by violent motions of the whole body, especially the wings; the pupil, however, does not contract, but becomes dilated, as, according to the statement of Magendie and Eschricht*, happens also in cats and dogs.

When the entire trigeminal nerve of rabbits is divided, in the manner first mentioned, the face, nose, eyeball, teeth, upper and nether lip, and tongue, on the same side, are totally deprived of sensation. The lower jaw is somewhat relaxed, but does not drop, as the muscles of mastication of the opposite side are unaffected; yet it seems to a close observer to be moved rather more obliquely: if, however, both nerves are cut across, the jaw drops, and the animal holds its head, now devoid of feeling, in a peculiar and hesitating manner, as though carrying a foreign substance before it. When only the two anterior divisions of the trigeminal are divided, loss of sensation occurs in the eye, nose, and anterior and middle parts of the face, but not in the tongue and ear. The hairs surrounding the mouth of course touch things which come in their way as before,* but the animal does not perceive the contact; so that if both eyes and the cilia of the opposite side are bound up, it ceases to be aware of the presence of external objects, and runs unconsciously against them. The lids are opened and shut properly; but the surface of the globe, the conjunctiva, and palpebræ, are utterly insensible to either slight irritation or the severest lesion; and the animal does not avoid a wire or needle passed through the nostril into the nose. The skin of the face and subjacent muscles are so insensible as to experience no pain when touched, pinched, cut, or even burnt to the bone; while the motions of the palpebræ, face, eyeball, ear, nose, mouth, and tongue, are as perfectly executed as if no operation had been performed. From all this it is evident that the function of sensation, not that of motion, is abolished in these parts by section of the two anterior divisions of the fifth; and that as regards motion, the muscles of mastication only are in addition paralyzed by section of the whole nerve. The extinction of sensibility, however, only affects the side on which the nerve has been divided; and even here, towards the median line of the forehead, nose, and mouth, an inferior degree of sensation still remains, whence it appears that this part is supplied with sentient fibres from both sides; and either in man or the horse accurate examination of the nerves proceeding from the infraorbital branch of the superior maxillary nerve and from the mental branch of the inferior, tends to confirm this statement; for though many filaments terminate in the cutis, without reaching the other side, yet in the median line there do exist extremely minute anastomotic branches connecting opposite analogous filaments.

In the operation first described, especially if the precaution I added be neglected, the third division of the fifth, from lying more posteriorly and immediately becoming deeply seated, is frequently left untouched. When it is completely divided, however, the lower jaw, as Bell first observed on the ass, and Magendie* again proved by experiment, becomes more or less relaxed; so that, guided by this sign, one may form a determinate judgment of the success of the operation; though nearly perfect mastication is still practicable by means of the sound muscles of the unaffected side. The motor function of this division may be more satisfactorily observed on a body retaining its irritability: in this way, Bell has seen convulsions of the muscles of mastication ensue upon its irritation on the ass; and I have myself witnessed the same in the cat, dog, and rabbit.

Upon the whole trigeminal nerve, or both its anterior divisions being divided or irritated in the rabbit, the pupil, as Magendie and Eschricht† have correctly stated, becomes contracted to a very small size, and continues immoveably in that state; while in dogs and cats, according to Magendie, and in pigeons, according to my own experiments, it dilates. Whether this results from a reflex influence, transmitted through the brain to the motor oculi,

* Eschricht, de funct. &c.
† Magendie, Journ. de Phys. 1824; Eschricht, oc. cit.; Lund, Vivisec. Fodera Journ. de Phys. vol. ii.

* Journ. de Phys. vol. iv.
† Loc. cit.

or from some motor fibres to the iris being directly injured, we shall inquire hereafter; the effect, however, is either not communicated to the opposite globe, or so slightly, that it shortly disappears. Hence, on the sound side, the pupil is very often unaltered; and if increased or diminished in diameter, it soon regains its usual character; while the irritability of the iris remains from the first in the wonted degree.

After a complete section of the fifth nerve in rabbits, disease of the globe on the affected side so rapidly supervenes that in sixteen or twenty-four hours it is cognisable with the naked eye. The cornea loses its brilliance, and becomes turbid and white,—a change beginning at the centre and spreading with considerable rapidity to the circumference. The delicate lamella of conjunctiva covering the cornea, in the commencement, undergoes little morbid change; though the blood-vessels of its palpebral and ocular portions are dilated and gorged; and the membrane becomes covered with more copious mucous secretion, soon assuming a decidedly puriform character. A section of the eye exhibits the layers of the cornea opaque and milky, like coagulated white of egg, but without any proper exudation corpuscles between them;—ecchymosis of the external surface of the globe;—and dilatation and congestion of the blood-vessels. The lens, as far as I have seen, is always transparent; the anterior capsule, however, is here and there turbid; and fibrous effusion exists between it and the pupillary margin: the remaining structures are free from disease. The foregoing description is drawn from my own observations on rabbits: but, in dogs, according to Magendie, suppuration occasionally extends, so that true hypopyon takes place; and the globe, bursting in consequence, is evacuated, and becomes converted into a small shapeless mass, which continues to be acted on by the muscles.

The consequences of disease of the trunk of the fifth nerve in man, hitherto observed, are few and incomplete; yet symptoms, such as have been ascertained by physiological experiment, are more or less given by physicians. Thus, Wishart* noticed impeded mastication in a person who had this nerve compressed by fungoid tumors; but the case proves little, as the facial and accessory were similarly affected, and other parts of the brain were diseased. The same may be said of Serres'* case of an epileptic, who had inflammation of the globe, opacity of the cornea, and coarctation of the pupil for six months previously. There was likewise anæsthesia of the conjunctiva and nostril of the same side, with loss of taste from one half of the tongue, scorbutic gums, and dulness of hearing; but the power of mastication remained entire. The trigeminal nerve was found in a state of pulpy degeneration, with the exception of its muscular portion; but,—not to mention loss of taste,—other symptoms, as dulness of hearing, sufficiently show that the disease was not confined to that nerve. There is the same ambiguity about the case related by Montault;† in which a woman with a tumor pressing on the fifth nerve, had redness of the conjunctiva and exsiccation of the cornea ten days before death: the history of the disease and post-mortem examination, however, displayed such extensive and great morbid changes, that the ocular affection could only in part be attributed to compreision of the nerve. The same observation holds good with respect to Bell's‡ case, though paralysis of the trigeminal nerve was well ascertained; and with those narrated by Montault and Romberg. The case noted by Abercrombie, however, exhibits more decisive indications. No power of sensation remained on the left side of the face, including the eye and nostril (from which there was occasional epistaxis), and half the tongue. The left globe, of which the cornea was nebulous, became frequently attacked with inflammation, mitigated at first by antiphlogistic remedies, but in the course of two months a linear portion of the circumference of the cornea was destroyed by ulceration, and the humours escaped. There was also complete paralysis of the masticatory muscles of the left side, which were quite relaxed during the acts of mastication and closing the mouth; and these paralytic symptoms remained unrelieved more than a year after de-

* Burdach, Gehirn, vol. iii.

* Fror. Not. vol. x.; and Bell, loc. cit.
† Fror. Not. vol. xxv.
‡ Mayo's Outlines of Hum. Path.

struction of the eye. There then came on severe pain in the head, with fever and coma, eventually terminating in death. The necropsy displayed softening of the central parts of the brain, and atrophy of the left trigeminal nerve, the portion near the Gasserian ganglion was particularly firm, but the remainder extremely small, and its adhesion to the pons varolii so slight that it seemed only attached by the neurilema:—this was no doubt from the same morbid affection that we find in the optic nerve when the globe has been destroyed for years, and has degenerated into a mere tubercle: we have already spoken of it.

In now following the branches of the fifth we commence with the proposition, that, as explained before, its two anterior divisions are endued with functions of sensation only. There is no difficulty in reaching the ophthalmic division as it enters the orbit (indeed, I have sometimes unintentionally injured it, when attempting to divide the optic nerve in the same situation); and on cutting through it in rabbits, no loss of motion ensues. The naso-ciliary branch has the same endowments; for though in the long root of the ciliary ganglion and the long ciliary branches, there are some fibres not exclusively for sensation, yet these are added from another source, and do not originally form part of that nerve.

The internal and external branches of the ethmoidal nerve regulate the common sensation of the mucous membrane of the nasal cavity, especially in the middle and inferior parts; for on destruction of the nerve, this only, and neither speeial sensation, nor motion in the ducts of the glands contained within the mucous membrane, is lost. No olfactory power resides in these branches; but I have not yet seen branches of the nasal nerves of common and of special sensation ever become united together in actual plexus; and, indeed, the structure of their primitive fibres is different. Those of the plexus of the olfactory are inclosed in thick remarkably soft sheaths composed of most minute filaments; and, from this circumstance, they have some resemblance to other soft nerves; while the primitive fibres of the branches of the trigeminal do not in any way differ, either as respects size or the character of their sheaths, from motor or sentient fibres in other parts of the body. Experience on the human subject proves that the external twig of the lateral branch of the ethmoidal nerve does not produce motion in any muscle of the nose: nor are the movements of the palpebræ governed directly by the infra-trochlear nerve, though besides being in part distributed to the muscular structure of the lacrymal sac, and to the caruncula lacrymalis, it supplies the orbicularis muscle and the skin of the forehead and root of the nose.

Some branches of the supra-orbital nerve enter the orbicularis, occipito-frontalis, corrugator supercilii, and there become intermixed with branches of the facial, yet they do not in man and mammiferous animals cause the motion of those muscles; for Bell observed neither spasm nor loss of motion upon division of the supra-orbital nerve in the human subject; nor does true neuralgia of this nerve interfere with the action of the muscles in question. Experiments on the lower animals support this conclusion.

The diseases of the ophthalmic nerve, which occur in the human subject, uniformly confirm the theory of its function being that of sensation. Bell relates several cases of the kind. A woman with typhus had lost the feeling of the surface of the eye and of the forehead, lips, and cheek; but the motions of these parts remained unimpaired. The nose was entirely destroyed, the ethmoidal cells and antrum maxillare were laid open; and the disease had attacked the orbit through ulceration of the lacrymal bone, whence the paralysis of the ophthalmic and infra-orbital nerves. A girl affected with dimness of sight in one eye, following an injury, after various diseases of this organ and the ear, had at the end of four years anæsthesia of the globe, lids, and skin of the forehead and cheeks, without any deterioration of motor power.* Another female, besides other paralytic affections of the trunk, and of the optic and motor oculi nerves, had the eye-balls, internal canthus, and forehead insensible.† These morbid

* Loc. cit. † Loc. cit.

conditions are not unfrequently seen.*

That the function of the superior maxillary nerve is that of sensation is proved by the experiments already mentioned. The inferior branch of the snbcutaneus malæ gives filaments to the orbicularis palpebrarum, as well as the skin; yet the action of this muscle is not impaired by division of the nerve immediately after it emerges from the zygomatic foramen or foramina; the junction of these fibres of sensation with motor twigs of the facial upon the cheek must therefore be of the same nature as in the case of the snpra-orbital nerve.

No certain conclusions respecting the minute filaments which go towards the optic nerve, and as to the middle root (so to speak) of the ophthalmic ganglion, can be deduced from experiment.

The branch of communication with the abducens nerve, described by Bock, which I have found for the most part proceeding from the spheno palatine ganglion, probably serves to impart some fibres of sensation to that nerve.

* * * *

*The abducens, or sixth cerebral nerve—Its motor function, as proved by experiment, confirmed by disease—Its sensibility negatived by experiment—Comparison of the motor nerves of the eye—The various movements of the globes—Their mechanism and laws.*

The abducens nerve governs the motions of the external rectus muscle of the eye; and this is readily proved: for, on the rabbit, or any other domesticated mammiferous animal, after the brain and upper wall of the orbit have been removed, the trunk of the nerve may be irritated in the base of the skull, or in the orbit; and while the body remains irritable, this muscle is thereupon remarkably convulsed. The motion is comparatively feeble in rabbits; but in dogs and cats is such, that the globe forcibly drawn outwards.

This experiment tallies with the observation of Yelloly,* who describes a man's eye to have been drawn inwards, in consequence of paralysis of the external rectus muscle from a tumor compressing the sixth nerve. The same phenomenon is occasionally seen in persons labouring under hemiplegia, when the external rectus only has lost its power; and the internal rectus, either alone, or aided by the inferior oblique, directs the globe inwards, or inwards and upwards, respectively, so that diplopia is at first produced. This contrast between the actions of the internal and external rectus affords a diagnostic symptom apparently too much neglected hitherto by medical men.

We have already stated that the integrity of the inferior division of the motor oculi is intimately connected with that of the retina; it therefore often happens that the internal rectus and inferior oblique of an eye the subject of amblyopia or amaurosis, become feeble in their action; so that the external rectus, owing to the abducens nerve being sound, contracts disproportionately, and draws the globe outwards. Hence strabismus divergens is frequently seen in persons with the diseases just mentioned. If, on the contrary, the retina is sound, and objects can no longer be seen merely from opacity of the cornea, the internal rectus, with or without the inferior oblique (they being the more automatic) overcomes the action of the external rectus (in accordance with the law by which, in paralytic affections, other involuntary muscles easily overcome voluntary ones, as the flexors do the extensors), and a squint inwards, or inwards and upwards, is produced. This twofold form of asymmetrical position of the globe indicates with accuracy the sound or diseased condition of the retina respectively.

Whether or not, however, the abducens nerve contains fibres of sensation in addition to those of motor power, can only be determined by a difficult experiment; for whichever way of dividing it with the neurotome we select, the operation is such as to preclude a decided judgment upon its sensibility. Thus, when the instrument is introduced behind the temporal bone, it is impossible to avoid lesion of the medulla oblongata, or the injury of so many blood-vessels that great hæmor-

* See, for example, Montault in Fror. Not., vol. xlviii.

† Quoted by Burdach, Gehirn. vol. iii.

rhage takes place: or again, if we enter the skull in front of the temporal bone, part of the fifth nerve is invariably touched during the operation, and extreme pain produced from this cause. Hence there is no alternative, but to divide the latter nerve at once, and then enter upon the inquiry respecting the abducens. The division of the trigeminal, therefore, in the base of the skull, in the manner previously described, must be first performed on a living rabbit; an assistant ascertaining the perfect success of the operation by the sensibility of the corresponding parts being totally extinguished, and the pupil of the same side becoming very contracted. During the examination of these points, the instrument is retained within the cavity of the cranium in the fold of dura mater inclosing the fifth nerve: it is then advanced inwards and downwards, so that its edge, placed perpendicularly in the base of the skull may strike the abducens nerve, which, in fact, it can hardly miss. Through this period of the operation the animal utters no cry, and seldom even moves. The experiment, however, very easily fails, since the medulla oblongata, or the portion of the trigeminal in connection with the brain, is often more or less irritated. To establish the insensibility of the abducens nerve, indicated by the experiment just described, the calvarium of a rabbit was removed, and the nerve divided in the open base of the skull. The globe was quickly turned outwards; but, though a cry instantly ensues upon the least touch of the motor oculi or trigeminal nerve,—in this case there was none. All this, then, fairly proves that the abducens is, in all probability, quite devoid of fibres of sensation; but, unquestinably, does not contain many.

On comparison, then, of the various cerebral nerves distributed to the muscles of the globe, we find one, the motor oculi, both highly sentient and motor; another, the pathetic, endowed with preponderating motor powers; and a third, the abducens, probably, exclusively motor. The fibres of sensation in these trunks are, therefore, the less numerous, and those of motion more abundant, in proportion as they take their origins more posteriorly from the nervous centre; and we may remark the same law in respect of those nerves which proceed from the medulla oblongata. Of the pathetic and abducens, each goes to its own muscle, which is, in both cases, altogether under the command of the will: but the motor oculi divides into a superior portion under the influence of volition, and an inferior, more or less automatic; so that, to a certain extent, it differs from the others.

The regular movements of the globes are harmonious, not symmetrical, and are reducible to the following classes:—1. One eye may be turned outwards, the other inwards; in which case, the external rectus of the former, and the internal of the latter, are in a state of contraction. 2. Both globes may be raised by the two superior recti. 3. Both may be depressed: this motion is in the commencement effected by the two inferior recti; but if it exceed a certain degree, mere depression is not continued, but the eyes are directed inwards also; hence it is evident the internal rectus is likewise in action. 4. Both eyes may be, at first, turned downwards and inwards; a motion resulting from the simultaneous action either of the internal and inferior recti, or of the superior oblique and internal rectus. When produced in the latter way, the superior oblique originating the movement, it is probably voluntary; when in the former, automatic;—so that this effect, which may be traced to two sources, is available for a double purpose. 5. One eye may be turned upwards and outwards, the other upwards and inwards; the superior and external recti, and the superior and internal recti respectively acting together. 6. The one may be directed outwards and downwards by the external and inferior recti, and the other inwards and downwards by the internal and inferior.

All the movements hitherto described may be performed voluntarily; but there are two more, of which the former is produced in every person during sleep, and the latter takes place when too near an object is looked at. 7. Both globes may be rotated upwards and inwards by the inferior obliqui, aided by the internal recti muscles. 8. Both may be turned inwards; the internal recti acting alone, or in conjunction with the inferior or supe-

rior recti; the latter combination being the more difficult, and less complete.

From what has now been stated the following are deductions:—

1. Among the movements of the two eyes there is one, both harmonious and symmetrical; namely, that caused by the simultaneous contraction of the superior recti. The effect of the combined action of the inferior recti is of the same character, to a certain point; but their contraction beyond this produces inharmonious, though symmetrical, automatic movements.

2. All the regular motions of the globe, which are harmonious and asymmetrical, are performed in such a manner, that a voluntary muscle of one eye (either the superior or external rectus, or the superior oblique), acts in harmony with a muscle of the other eye, more or less automatic in habit; but it is my own decided opinion that the first impulse to action is produced in the former.

3. Two voluntary muscles, upon the simultaneous action of which want of harmony of the eyes would ensue,—as, the two external recti, or the two superior oblique,—cannot be so employed.

4. Yet automatic muscles may act together under these circumstances; as the internal recti, when we regard too near an object; and the inferior obliqui during sleep. The simultaneous action of the inferior obliqui, however, is always involuntary, for they are entirely automatic muscles; but that of the internal recti is induced voluntarily by many persons, and as an automatic phenomenon in all; and for the reason now stated greater and more firm contraction is possible when the inferior, than when the superior recti are combined in action with the internal.

5. Voluntary squinting is performed by those muscles only, which are chiefly automatic: and squinting from disease, when unaccompanied by any affection of the iris or retina, is most commonly produced by muscles of the same class; namely, the internal rectus alone, or with the inferior rectus; less frequently, however, it is caused by the inferior oblique, which is entirely automatic.

Voluntary internal squinting with one eye, while the other remains stationary, is extremely difficult of accomplishment; for it requires such a power over the internal rectus, as may effect its contraction separately and alone; and hence very few persons, and they only after long practice, are capable of performing it. The whole active effort of the will is, in this case, directed to the mainly automatic internal rectus; while its influence is preventing the contraction of the external or internal rectus of the other eye. I have never known a person capable of keeping one eye stationary, while the other is directed simply outwards; for the internal rectus, like every automatic muscle, possesses such very high contractile energy, as to be insuperable, except in harmonious action; and for the same reason the superior oblique muscle can never be exerted alone, while the opposite eye is unmoved.

The foregoing remarks appear to throw light upon the nature of the muscles of the globe; for as respects the two eyes both of man and of animals, there are, as it were, two conflicting principles. On the one hand, in accordance with the system obtaining throughout the body, symmetrical muscles exist; on the other, the movements of the two eyes are not symmetrical, but harmonious. Again, on the one hand, the eye is moved voluntarily; yet, on the other, it is controuled by various affections of the retina. For the involuntary actions nature has destined the internal circle of muscles, that is to say, the internal and inferior recti and the inferior oblique; and to the voluntary, she has adapted the external circle, consisting of the external and superior recti and the superior oblique: upon the action of the voluntary circle, the pupil dilates; upon that of the automatic one, it contracts: the former may be compared to an extensor muscle; the latter, which accordingly is more easily exerted both in health and disease, to a flexor. Even the individual constituents of these circles are opposed—the superior, to the inferior; the external, to the internal rectus; and the superior, to the inferior oblique.

Harmonious motion is produced by the action of a portion of the voluntary circle of one eye, exciting the involuntary contraction of the opposed portion of the automatic circle of the other.

The preceding observations sufficiently explain the constantly uniform arrangement of the muscles of the globe, and the disposition of the

nerves supplying them. It is scarcely necessary to point out more fully, that the automatic circle derives its nervous influence from the same source as the iris.

That the external rectus and superior oblique have each their own peculiar nerve, seems to depend upon the same cause—their voluntary nature. That a separate cerebral nerve is not given to the superior rectus, but the superior division of the motor oculi is sent to it in common with the levator palpebræ, may be from the circumstance, that these two are the only muscles of the voluntary circle, the action of which is connected with dilatation of the pupil; hence the nervous fibrils going to them seem to emerge from the brain closest to those of the iris.

To the entire theory, for explaining the various actions of the muscles of the globe, given above, there is one circumstance which at first sight seems opposed; viz. that we can simultaneously employ the external rectus of one eye and the internal of the other, but not the superior rectus of one and the inferior of the other. There is, however, this difference between these two kinds of movement; that, in the former, harmonious has the advantage over symmetrical action; but in the latter neither harmony nor symmetry; it would not correspond with anatomical conformation, or contribute to any physiological object.

*The consequences of division or paralysis of the facial nerves upon the eye.*

When the facial branches of this nerve are cut through, the motions and in some degree the sensation of the face are destroyed. The eye cannot be shut; but the upper lid can be normally raised, as the superior division of the motor oculi which supplies the levator palpebræ remains sound * * * * *

The effect of paralysis of the facial nerve in man is nearly the same as we observe in mammalia. The eye is moved properly within the orbit; but the motions of the palpebræ are not normal. The person being unable to close the eyelids, if he wishes to do so, lets the superior palpebra drop, and rotates the globe upwards and inwards, or upwards only; but the lower lid continues motionless, so that an uncovered white stripe of sclerotic of some breadth is exposed to view. The globe thus insufficiently protected by the palpebræ, and either too copiously or too sparingly bedewed with tears, becomes constantly affected with inflammation.

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THE CAUSES OF ALBUMINURIA ILLUSTRATED BY EXPERIMENTS.

M. Fourcault, being of opinion that albuminuria was a morbid result of suppression of the cutaneous function, instituted an examination of the urine of those animals whose surface he varnished or coated. He found that when dogs so treated began to exhibit symptoms of suffering and difficulty of breathing, the urine first became albuminous; the albumen being often mixed with blood-globules. Very generally, when the animal succeeded in removing the substance with which it was coated, the albuminuria ceased, and the urinary salts reappeared in large quantities. A shaved rabbit was coated with dextrine, and so inclosed in an apparatus that the urine could be collected unmixed with fæces. A considerable quantity of albumen appeared in the urine. In another rabbit so treated, the pericardium was found to contain an albuminous fluid. The urine of dogs thus coated, previously acid, became gradually less acid, then neutral; and when it contained a large quantity of albumen, a tendency to alkalinity. M. Fourcault flayed Guinea-pigs and rabbits alive, replacing the skin in its proper position, and he was astonished to find that they lived two or three times longer than if they had been incased in an impermeable coating. They maintained their natural temperature, and were lively and vigorous to within a few hours of their death! If, however, a layer of dextrine was laid over the flayed surface, albumen appeared. From these and other facts, M. Fourcault infers that the skin is solely an excreting organ. Its function is to throw off the free lactic acid and lactates already present in the blood. If this acid be retained it is in excess, and, destroying the equilibrium of the organic affinities, precipitates albumen upon the urinary organs, when the soda of the urine renders it soluble. The cutaneous salts being also thrown back into the circulation, pass off by the kidneys, and render the urine alkaline.

According to the preceding hypothesis, the introduction of lactic acid into the circulation would be followed by albuminuria, and M. Fourcault details some experiments which, in his opinion, prove the fact decisively. These experimenls do not, however, appear to be of more than questionable value. The same remark applies to the comparison of the phenomena of the cholera Asiatica with those of suppressed cutaneous excretion.—*Brit. and For. Med. Rev.*

# MEDICAL GAZETTE.

FRIDAY, MARCH 27, 1846.

On a former occasion we called the attention of our readers to that clause of the last Medical Profession Bill, which referred to the expulsion of members for certain offences.* The first point requiring notice is, that provision was made for erasing the names of "*convicted felons*" from the register. This is certainly one small step towards the purification of the profession; but considering that the disqualifying crime must carry with it the punishment of "death or transportation," according to the words of the clause, we do not see that much is gained by this provisio; since the individual would, we presume, be for ever removed from the scene of his delinquencies, and the erasure of his name would be a mere matter of form. This part of the clause, therefore, has about as much to do with the discipline of the profession, as if it laid down the rule, that on the production of a proper certificate of death from the registrar of the district, "it shall be lawful for the Council of Health," &c. to cause the name of such dead physician, &c. to be erased from the register! The only difference that we can perceive is that in the one case the individual dies a civil, and in the other a natural death. Strange, indeed, would it have been, if a measure intended to regulate the profession of physic and surgery, had been so ill-constructed, as to allow a *convicted felon* a legal right to have his name retained upon a register by the side of those of honourable men.

The other two offences upon legal proof of which the name of a member may be erased from the register, partake of the character of misdemeanours. The first relates to the procuring of the *registry of the name* by any fraud or false pretence. This is certainly an important provision. From information which we have received, we believe that the practice of forging certificates, in order to qualify for examination, is by no means unusual; and it is pretty certain that a man who does not scruple to enter a profession by making use of forged documents, will not have much hesitation, where his interest is concerned, to commit forgery or some other grave offence, after he has entered it. The name of such a man should not, therefore, be allowed to remain on the register. The only other case in which the framers of the measure thought fit to place this power in the hands of the Council of Health, was in relation to *certificates*, granted for any *legal* purpose, which required the signature of a medical practitioner. Here, also, we believe most persons would agree that the power should be exercised.

By a proviso contained in the latter part of the clause, the name of a delinquent might be afterwards replaced on the register by the special license of the Council of Health, on the recommendation of the College which originally granted the diploma. Thus a *locus penitentiæ* was left, and justice to the profession was properly tempered with mercy to the offender.

Admitting that the higher class of felonies and *too* misdemeanours comprised the only cases in which the law should interfere with the privilege of registration, for the purpose of maintaining the dignity and respectability of the medical profession, it will be seen that legal proof of the conviction of an offender was made a necessary preliminary to the exercise of the power given to the Council. At first sight this appears no more than common justice; and if it were a question for the infliction of

* Page 208.

damages or of a term of imprisonment, we should have no objection to urge to it. Let it be remembered, however, that in thus rigorously defining the disqualifying offences, and in requiring strict proof of a *legal* conviction, the power of controlling their own members, is virtually taken from the Council and the Colleges. It rests with them to place the name on the register, but substantially with a Court of law to take it off! In the Clerical and Legal professions, in the Army and Navy, any charges of gross misconduct are inquired into by specially appointed courts. Preliminary proof of conviction by a Court of law is not necessarily demanded: if it were, it is clear that in many cases really calling for suspension or expulsion, the power of a diocesan to suspend a clergyman—of an Inn of court to disbar a barrister—or of a court-martial to cashier an officer, would become a mere shadow. We presume, from what has already occurred, that it is no *legal* offence for a clergyman or a military officer to be guilty of the grossest acts of debauchery or licentiousness, nor for a barrister to act as attorney and prosecutor, or to advertise for practice by allowing a commission: but these acts constitute grave offences against their respective professions, bringing scandal, discredit, and dishonour upon them; and for the proper maintenance of discipline they require to be summarily repressed. If, however, "proof of conviction" before a "competent court of law" were demanded as a preliminary step to this degradation, it is clear that the power to suspend or expel an unworthy member, could not possibly be exercised in numerous cases where interference would be both proper and justifiable. We are at a loss to understand why a different rule should be applied to the regulation of the medical profession. Could not a properly constituted Council of Health and the Colleges be trusted,—or are we to infer that a *lower standard* of character is required for the medical than for the other professions? We are most unwilling to draw either of these inferences; but if no more in the shape of enforcing discipline is to be effected by a future Medical Bill, one or the other inference must be true.

A man charged with either of the disqualifying offences referred to in the clause, might escape conviction not upon the *merits* of the case, or proof of his innocence, but upon some legal *technicality*. It may be all very proper under these circumstances that he should not be subjected to legal punishment; but we really do not see why, under the exercise of this humane principle of law, he is to be allowed to degrade the profession to which he belongs, by claiming to have his name retained upon the register. Is his moral turpitude the less for an acquittal under such circumstances, and will the fact of his name being *legally* upon the register, reflect less disgrace upon the profession to which he belongs, than if he had been convicted? We think not; and the error in the clause appears to us to have consisted in the fact, that *legal* innocence was, in all cases, made the test of moral and upright professional conduct! It may be said, none of his professional brethren would meet him:—be it so: but he would still have all the legal rights and privileges of an upright professional man; there would be no power of excluding him from the body which he had thus disgraced.

Let us now examine the rules according to which these professional delinquencies are dwelt with in the legal profession: and fortunately a case has only recently occurred which enables us to institute a comparison. During the last Michaelmas term, the Court of Queen's Bench struck an

attorney off the rolls, who had been convicted of obtaining goods and property by contrivances highly discreditable and dishonest; and "rightly looking at the character of the man who could be guilty of these acts, rather than the *precise degree of legal criminality*, the Court disregarded the circumstance that the indictment upon which he had been found guilty, had been held *bad* upon writ of error!"*

Again, in reference to a barrister who had been disbarred by the Benchers of Gray's Inn or unprofessional conduct, and who applied to the Court to be admitted an attorney, we find it stated by Lord Denman, that it is of great importance to the character of the profession, that improper persons should be excluded; and when any one has proved himself unfit, we must not from morbid pity for the individual, allow ourselves to forget that he is rightly punished, and that rules *necessary for the well-being of the body*, must be enforced without regard to the sufferings of any particular number! Lord Denman further observed in his judgment:—"It is with great regret that we hear of any man being deprived of the means of obtaining his living by any act of ours, but we are not responsible for that consequence, while we are responsible to the profession and the public for a due exercise of the powers which we possess for preventing *improper persons* (not merely convicted felons!) from becoming entitled to practise!

In maintaining the character of the legal profession, therefore, the precise degree of *legal* criminality is not regarded. Offences not recognised as such by law are punished by expulsion: and we cannot see why, if such a rule be followed in one case, it should not be carried out in another—the great object being to render a profession respectable, and to inspire the public with a feeling of confidence in its members. We know of no reason why a greater degree of moral purity should be expected from members of the law than from medical practitioners, or why a different code of ethics should be applied to the regulation of the two professions: yet the clause of the late Physic and Surgery Bill proceeded on the principle that the Council of Health and Colleges were not fitted to judge respecting the propriety of erasing a name from the register, and that unless a man committed a capital or transportable felony—unless he entered the profession by forged certificates—or, after having entered it, had certified what was false, he would be qualified to hold the rank and exercise the privileges of a medical practitioner! We wholly dissent from the conclusions to which such an enactment would lead, as degrading and inequitable; and we trust, before any measure of medical reform is allowed to become law, those who have charge of it will consider why, in relation to medical men, the precise degree of *legal* criminality should be made the test of professional character, while this test is repudiated for their own body by the highest authorities in the Law.

* Law Times, Jan. 3d, 1846.

## Reviews.

*On Scarlatina, and its Successful Treatment by the Acidum Aceticum Dilutum of the Pharmacopœia.* By Isaac B. Brown. Small 8vo. pp. 66. London: Churchill. 1846.

We should certainly have felt ourselves called upon to record our thanks to Mr. Brown for contributing some interesting facts to the therapeutics of a most prevalent and formidable disease, had we not found that the first page of his essay contains expressions of views which, to say the least, are objectionable and ill-judged in the ex-

treme. The author informs us that he offers "this little treatise to his professional brethren, and through them to the public at large"—and proceeds to state further that he "purposely avoids using unnecessarily technical or professional terms, because he wishes this to be read by parents and heads of families as well as by members of the medical profession." Acting upon this principle, he is evidently cautious to adapt his descriptions to the understandings of parents of the most limited capacity, and heads of families upon whom the light of science has not yet dawned, by avoiding all professional obscurity of detail, and by considerately rendering all puzzling words of abstruse signification, such as antiseptic, acetic acid, desquamation, &c. into the plain vernacular. Upon what reasonable or professional grounds can the author conceive himself to be justified in addressing to the non-medical public an essay which is strictly devoted to the medical treatment of a complicated and most dangerous malady? He fairly states that it is not his wish that the treatment which he advocates should be put into practice by non-professional persons, and the work is evidently not written for the express purpose of inculcating the necessity of prophylactic measures. What hints, then, is it desired that the non-medical public should gather from this brochure?—Simply these: that it is of extremely vital importance to consult a practitioner, who during the last six years has treated some hundreds of cases of scarlet fever, and has never lost a single patient — where, &c. &c. Or (should distance or any other obstacle render the advantage of such consultation absolutely unattainable), that no other practitioner should, for an instant, be tolerated, who is so ignorant as to be unacquainted with the miraculous powers of distilled vinegar, or so bigoted as to question its efficacy. The very questionable taste in which Mr. Brown's preface is written has compelled us to enter into the above analysis of motives: we now pass to matter more attractive.

Mr. Brown very justly places himself among the opponents of the injurious system of depleting in scarlatina: his experience agrees with that of Dr. Williams, who has shown that out of a considerable number of children suffering from this disease, in whom bleeding was employed, nearly *one* in *six* died, while, in cases where the tonic, stimulant, and purgative systems were employed, the deaths were in the ratio of *one* in *twenty-two*. Experience and reasoning are alike opposed to the employment of a powerfully lowering system in fevers, which we uniformly find characterised by dyscrasis of the blood and prostration of vital energy. We are, however, inclined to fear that Mr. Brown is in danger of falling into the opposite extreme, in not very accurately distinguishing between stimulation and support.

The following extract will best introduce the views which our author entertains respecting his favourite remedy in scarlatina—acetic acid. After alluding to the systems of treatment which he considers to be injurious in this disease, he observes—

"I believe the first thing to be considered is, how can the blood be altered or purified of its virulent poison, and how can it be replenished when so altered or purified: Secondly—How can the vascularity of the mucous membrane be subdued or allayed: —and, Thirdly—What can be done to arrest the ulceration or sloughing of the tonsils and fauces, which frequently is the direct cause of death by preventing free respiration? Now, to the first question—how can the blood be purified of its virulent poison? — By administering a medicine which is decidedly antiseptic, or a destroyer of putrefaction. Secondly, to the question; How can the vascularity of the mucous membrane be subdued or allayed?—By avoiding any irritant purgatives, and by administering that which will act as a febrifuge and an astringent of the blood-vessels at the same time.* Thirdly—What can be done to arrest the sloughing or ulceration of the tonsils and fauces?—Arrest the first commencement of the ulceration by direct applications to the entire surface of the parts."

The author applies once, twice, or thrice during the day a solution of nitrate of silver—ten grains to the ounce of distilled water to the tonsils and fauces, sponging the parts thoroughly,

* Might we not also add,—and by avoiding such articles of nutriment as "cold roast beef, cut up very fine, and soaked in vinegar and mustard." (See Case p. 36).—Rev.

and removing the viscid mucus which accumulates upon them.

"Now, I believe, acetic acid (distilled vinegar), which is quickly taken up by the veins of the stomach, is the best remedy for these various forms of the disease. It is well known that acetic acid is a powerful antiseptic, a good styptic, and also a most refreshing febrifuge; it is also well known that it materially assists digestion; thus it acts as a powerful auxiliary in assisting assimilation, and consequently a greater supply of chyle is obtained. Here, then, we have all we want, for destroying the poison of the blood, for allaying the vascular state of the mucous membrane, for preventing hæmorrhage from the blood-vessels, astringing the tonsils and fauces, and for checking the febrile action and supplying fresh chyle to the blood. But it will be said, surely you do not rely on acetic acid alone? I reply, certainly not. I use other remedies as auxiliaries; but my sheet-anchor is acetic acid, from the beginning to end of the treatment."

Such are the therepeutical views upon which the author grounds his system of treatment: we cannot altogether subscribe to the above curt pathological arguments upon obscure and debatable questions, and are inclined to attach much more importance to the fact that the administration of acetic acid certainly appears to have been attended with beneficial results. The author, as we have already hinted, states that he has employed it in some hundreds of cases; and during a considerable time has never lost a single case where he has seen the patient in the first stage, and where his treatment has been fairly carried out by the parents and attendants. The suggestion of employing acetic acid in scarlatina was received from Mr. Hunter of Margate, who says:—

"I have not preserved any notes of my treatment of scarlet fever, because my treatment with acetic acid, &c. has been so uniformly successful, that the description of one case would generally be the same as ninety-nine out of every hundred. I had happily been more than fifteen years in active practice, before I saw a fatal case of scarlet fever; and now, after nearly thirty years of extensive professional employment, the fatal terminations have been so few that I could not venture to state the number positively, or without reference to my books, for fear that I should overrate them, but I think *four* must be the entire amount."

The testimony of Mr. George Brown, of Kensall Green, is also adduced in favour of the acetic acid plan. This gentleman states that,—

"During nearly five years he has had very many cases, all of which have been treated with acetic acid, which he has in some cases given as strong as the patient could possibly take it; and that the result of such treatment has been most marked, he having had no deaths from this disease where he was called in at the early stage of the eruption, and where he could secure attention to his directions."

The author confidently affirms that he has never had a case of dropsy supervening on scarlet fever, since he adopted the employment of acetic acid in that disease. Should further experience show that the occurrence of renal disease is averted by the administration of the acid, the fact will not only be one of extreme importance in a therapeutic point of view, but it will also afford an interesting clue to the pathology of renal anasarca. But we are not, at present, prepared to adopt the author's views with regard to the prevention of dropsy by this means; we apprehend that his caution of guarding the patient against all kinds of exposure until the process of desquamation has ceased, has been chiefly instrumental in averting the evil.

The dose of dilute acetic acid recommended by the author is, for a child under three years of age, half a drachm, and he of course increases the quantity of the acid in proportion to the age of the patient:—after fifteen he gives two drachms as a dose, gradually increasing it in proportion to the degree of fever. He very strongly objects to the employment of saline purgatives in this disease, as tending to produce dangerous irritation of the mucous membrane.

We have now sketched briefly the principal views advanced by Mr. Brown in his essay. Still the medical practitioner will do well to peruse the work throughout,—we cannot join the author in recommending it to the non-professional reader.

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*Guy's Hospital Reports. Second Series.* No. VI. October 1845.

*Abstract of the two Half-Yearly Reports of the Clinical Society for* 1844. Medical Report, by Edmund Lloyd

BIRKETT, M.B. Surgical Report, by ROBERT GOSSETT, Surgical Secretary of the Clinical Society.

WE have always felt great pleasure in hearing of the successful progress of the Clinical Report Society of Guy's Hospital, considering it to be one of the most interesting and most useful of the associations which have of late years been established, for purposes of mental instruction, in connection with the London medical schools. We conceive that the great claim which this society has to the good will of the profession, rests on the fact of its having been planned, organised, and conducted, solely by the students themselves. We find, from official documents, that the society first commenced its operations in the year 1836, its construction being due to the talent and industry of the late Mr. John Blackburn, of Liverpool, then a student of the Hospital. Since that period the society has continued its operations with increasing energy, fresh ranks of reporters being constantly willing to come forward to supply the place of those who quit the hospital at the conclusion of their education. In this manner the great object of the society is fully carried out—viz. of ensuring to a large body of students the advantages of clinical investigation and experience. By a judicious arrangement, reporters are distributed to all the wards of the hospital, and entrusted with the duty of recording with minuteness and accuracy the history of every case admitted to their respective sections. In this manner, from 1000 to 1500 carefully-reported cases are added to the archives of the society annually (these records now comprise the detailed histories of nearly 12,000 cases): hence, during the nine years in which the society has been in operation, it has been the means of ensuring the advantage of a practical acquaintance with disease to several hundred students, a large proportion of whom would probably, under other circumstances, have continued to be mere "walkers of the hospital" during the entire period of their scholastic career. The example of the clinical reporters cannot be too strongly recommended for the imitation of the pupils in attendance at large hospitals; and we believe that the authorities of such institutions could not confer a greater benefit upon their students than by encouraging them in the formation of similar associations.

The two reports before us consist of well-arranged statistical tables, based upon the records of 700 medical and the same number of surgical cases; the whole of which have been reported by the students during the year 1844. The care and judgment with which these nosological tables have been constructed reflect the highest credit upon the able zeal of Dr. Edmund Birkett and Mr. Gossett. Should these reports continue to appear regularly, they will at length form a source of statistical information of a most correct and valuable description.

### *Two Cases of Extra-Uterine Fœtation.* By DR. OLDHAM.

The first of these cases occurred under the author's own observation, in a woman, ætat. 31, who had been married seven or eight years. A year after her marriage she was delivered of a child; from that time she remained sterile up to a period of about thirteen or fourteen weeks previous to her death, when she supposed herself again to have conceived. The author considers that the second was an example of interstitial or parietal extra-uterine pregnancy, and presents a very curious anomaly; the right fallopian tube having apparently received an ovum from the left ovary, and transmitted it into the artificial sac, formed in the substance of the right horn of the womb. The subject of this case was a woman 28 years of age, who supposed herself about two months advanced in pregnancy. Death was caused in both instances from the rupture of the large vessels in the walls of the containing sac, and the consequent extravasation of blood into the peritoneal cavity.

Many of the causes which have been assigned for the occurrence of tubal pregnancy are extremely doubtful and unsatisfactory. Dr. Oldham appears to us to have assigned a most reasonable explanation for the occurrence of this anomaly, in the cases which he has detailed. He observes,—

"In my opinion, the two cases which have been related indicate the particular cause which is most frequently in operation: I refer to the existence of false membranes, which, either by girthing the tube itself or

by fixing different parts of it, form a partial or complete stricture of its canal, or embarrass and restrain its movements, impeding it in its office as a conducting tube for the sound. The development of the ovum without the womb is due, therefore, in these instances, to a mechanical error. It must have struck every one who is in the habit of making post-mortem examinations, how frequently these membranes are found about the internal organs of generation. Sometimes they are so abundant, and so completely envelope the uterus and its appendages, that sterility is the necessary result. This is the case generally with women who have led abandoned lives, and is evidently caused from too frequent sexual excitement. But very often they leave the passage of the tube open enough to permit the transmission of the semen; and the evil consequences are felt only either during or immediately after the escape of the ovum. A most important practical point to be noticed, is, that the peritoneal inflammation which attends their formation, produces but few symptoms, compared with peritonitis in other parts of the abdomen. I have frequently found these false membranes in women whose history has not indicated any known attack of peritonitis; and I feel sure that they are produced in the course of illness, where the pain about the pelvic region is not a prominent feature. In the first case, the false membranes were, no doubt, found about the tubes and ovaries after the first labour:" (the report states, that 'two days after her confinement, there was much pain in the lower belly, for which she was leeched and fomented'): "they were not sufficient completely to obliterate the passage of the tubes, or to spoil the relation of their fimbriated extremities to the ovaries; but their presence diminished the chance of pregnancy, and caused, I suspect, the seven years' sterility which followed the first labour. I have known cases where, a few days after marriage, there has been pain and uneasiness in one or both sides of the pelvis, which has effectually been relieved by aperients, with hot narcotic fomentations and narcotics, but sterility has followed; and I believe it to have been produced by the formation of these membranes around and about the uterine appendages. It is a matter of importance to bear this in mind, in reference to that class of puerperal diseases which are likely to produce them; and I have been in the habit of watching carefully those lingering traces of inflammatory action about the pelvis which so often follow tedious labours or abortions, with the direct object of preventing them. The occasional use of leeches, and the application of the liniment. hydrarg. over the lower abdomen, or the emplast. ammon. c. hydrarg. with strict adherence to rest and a careful diet, will do much to effect this purpose."

These cases receive additional interest from the careful manner in which the author has detailed the appearances discovered in the uteri and their appendages, ovaries, decidua, &c.

*Select Clinical Reports. With Observations.* By George H. Barlow, M.A. and M.D.

This paper forms the conclusion of a highly interesting series of original cases and remarks which the author adduces in support of the following proposition:—

"If a sufficient quantity of water cannot be received into the small intestines, or if the circuit through the portal system into the vena cava ascendens, or thence through the lungs and heart into the systemic circulation, be obstructed; or if there be extensive disorganization of the kidneys; the due secretion of urine cannot be effected."

In the former portion of his report, Dr. Barlow brought forward, in illustration of the first and second clauses of his proposition, some striking instances of obstruction high up in the small intestine, and of impediment in the portal system and in the inferior cava; in all of which instances the secretion of urine was manifestly checked. In the present communication he adduces examples of pulmonary, mitral, and aortic obstruction; in the whole of which, the same effect upon the renal secretion was more or less apparent.

The series is concluded by a remarkable case, in which, one kidney having undergone complete obliteration, from some cause not ascertained, the other had become immensely enlarged and dilated, but had generally continued, up to the time of the patient's death, to pour out a large quantity of limpid urine. It was found, however, that this urine, which at first sight appeared healthy, proved to be of such low specific gravity (1002) that it could have been little else than water; the solid ingredients were wanting: hence the author argues that the case was, in fact, essentially one of suppressed secretion. The patient died with cerebral symptoms of a character which fully confirms the belief that he suffered from this cause. It will be observed from this sketch, that the author's remarks include illustrations

of suppression of the urinary secretion, from three distinct sets of causes:—(1.) From deficient supply of fluid material to the blood. (2.) From the congested or otherwise disordered state of the kidneys which must invariably attend chronic obstructions to the abdominal pulmonary or cardiac circulation. (3.) From certain forms of organic defect in the structures of the kidneys themselves. In the course of his paper, Dr. Barlow throws out many incidental remarks upon the various forms of heart disease which occurred in the cases detailed. We think that a few of his conclusions upon these subjects will not be readily admitted; still they will afford some interesting subjects for discussion and reflection to the cardiac pathologist.

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*Supplement to the Third Edition of Black's Treatise on Brewing, &c.* By WILLIAM BLACK. 8vo. pp. 48. London, 1846. Longmans.

*Instructions for making Unfermented Bread; with Observations, &c.* By a PHYSICIAN. 8vo. pp. 15. London, 1846. Taylor and Walton.

BREWING and baking must be ranked among the most useful economical arts, and the authors of the two pamphlets before us have endeavoured to base the practice upon scientific principles.

Mr. Black is already well known by his Treatise on Brewing, which has reached a third edition. The Supplement before us shews that he is a practical man, and that he has made himself acquainted with the progress of modern chemistry, so far as it relates to an art in which he has had considerable experience. The main object of his essay is to shew that the mode of fermentation recommended by Liebig in the brewing of Bavarian beer, possesses no advantages over that pursued in this country; and that if our beer be more acid than that of Germany, it is owing to certain vicious and unscientific practices which have been lately introduced into the English system of brewing.

Mr. Black opposes his practice to Liebig's theory, and he appears to us to assign very good reasons why the Bavarian process could not be profitably carried on in England. In the first place, it would not be economical for brewers; and secondly, the product, if "cloudy and laxative," as it is stated to be in the common public houses of Germany, would certainly not suit the porter-drinkers of England. There is some common-sense in the following remarks:—

"The most able chemist, unless practically acquainted with the business, must labour under very great difficulties in forming practical conclusions respecting the fermentation of beer; as, in many cases, he can only be guided by the opinions of uneducated men, who can adduce no scientific reasons for the information they may give, but merely that they have found it to answer in their own practice and locality; whereas, place them in different localities or situations, they might totally fail." p. 10.

It by no means follows that a first-rate chemist should make a first-rate brewer, and we should be inclined to add to Mr. Black's remarks—*Ne sutor ultra crepidam.*

One defect in the present system of brewing in England, according to the author, is the use of chains of pipes, consisting of different metals, whereby electrical currents are established. Contact with acid liquids is not necessary for the formation of of these currents: provided only two metals, having different affinities for oxygen, be immersed in water, the galvanometer shews that an electric current is immediately produced. Mr. Black recommends the insulation of the fermenting vessels, in order to protect their contents as much as possible from the effects of atmospheric electricity. We cannot follow the author into those sections of his pamphlet which refer to the manipulations of the brewer. They appear to ns to convey in plain language many useful hints by which practical men may profit. The author denies, and upon good scientific authority, the existence of Diastase as an independent principle. It is most probably, as he suggests, merely gluten that has undergone some slight change which renders it fitted to induce the saccharine fermentation.

This essay will be found useful by all who take an interest in the art of brewing.

The Essay on Baking is from the pen of an anonymous writer—a medical man; and as we judge from his confessions rather given to hypochon-

dria, and fond of over-physicking himself—not a common failing in the profession. He states, that during TEN YEARS, he took pills "as regularly as his food, the bowels not acting once without their assistance." A loaf of unfermented bread came in his way, and he soon found that he could dispense with his pills. Brown bread according to a formula which he gives, became his daily fare; and he soon recovered his health and strength. When his bowels were thrown out of order by the accidental use of common or fermented bread, they were immediately set right by the use of the unfermented bread. Surely this is like proving too much. After swallowing purgative pills "as regularly as food" for ten long years, something must be set down to the withdrawal of this preposterous system of self-physicking; but "the increase of strength and buoyancy of feeling" are very unprofessionally referred by him exclusively to the use of unfermented bread. As some of his popular readers may be induced to apply the author's case to themselves, let us endeavour to make out what can be the cause of the marvellous difference in dietetical effects between fermented and unfermented bread.

In the ordinary fermentation of bread, carbonic acid is evolved at the expense of the saccharine matter in the flour. Some portion of starch may also become saccharized and undergo fermentation. The gas distends the substance of the loaf, being retained by the gluten, and the baking, when fermentation has proceeded to a certain period, puts a stop to the process, whereby the loaf is procured in a light and porous condition. Such is the common fermented bread: we have nothing to do with the admixture of burnt bones, alum, and such like substances, because these are equally injurious whether they be introduced into the fermented or unfermented loaf. On the other hand, common salt is necessary in both cases.

The author's *panacea* consists in thrusting the carbonic acid into the bread, instead of producing it at the expense of the saccharine matter of the flour. For this purpose bicarbonate of soda is well mixed with the flour, and diluted muriatic acid is afterwards kneaded into the mass. Common salt and carbonic acid result: the latter is freely extricated by exposure to heat, and distends the loaf as under ordinary fermentation, provided the materials have been thoroughly mixed. Thus, then, the only difference is, that the carbonic acid, instead of being formed from the principles of the bread itself, is mechanically introduced into it. There is perhaps greater economy in this plan, but we do not see in what way the unfermented bread acquires such marvellous properties,—the very reverse, if we are to believe the author, of those possessed by common fermented bread. In the unfermented loaf the sugar of the flour is swallowed entire—in the fermented loaf it has been more or less converted into alcohol and carbonic acid.

Whether any advantage be gained under these circumstances, must of course be a matter to be settled by fair experiment. *Primâ facie* the swallowing the elements of carbonic acid and alcohol cannot give rise to the extraordinary difference of properties assigned by the author; and before we can give our assent to his views, we should like to be informed of the results of experiments with the two kinds of bread upon persons who have not been in the habit of swallowing purgative pills as regularly as their food for ten years together! The conclusion which he draws from observations upon himself, partake too much of the *post hoc propter hoc* character to induce us to place any confidence in them.

## Hospital and Infirmary Reports.

### UNIVERSITY COLLEGE HOSPITAL.

*Case of Sciatica, successfully treated by the application of Blisters and the endermic use of the Hydrochlorate of Morphia.* Clinical Remarks, by Dr. TAYLOR.—Reported by Mr. H. BENCRAFT, M.R.C.S.E. Senior-Physician's Assistant.

JOHN WATTS, æt. 27, admitted Thursday, November 20th, 1845. Of about the average stature, stout conformation, and sanguine temperament. For the last eight or nine years he has worked as a gardener, and consequently has been much exposed to wet and cold. He has always lived well and regularly; has been well clothed. He has been in the habit of drinking about two pints of

beer daily, with an occasional glass of spirits. For the last five years his place of residence has been healthy, being in the neighbourhood of the Regent's Park. No hereditary predisposition; he has generally had good health. Three years since he had a slight attack of bronchitis, and about a year since he suffered from tonsillitis. Both these attacks were, he says, brought on by wet and cold. At about the commencement of last spring he "cricked his back" whilst lifting some heavy orange trees. He then had no medical advice, and only felt pain in his back on stooping. On the 25th of August last, without any assignable cause, he first began to complain of pain in the right hip, which seemed to shoot across the loins and down the back and outer part of the right thigh and leg. This continued to get worse, and on the 2d of September he became an out-patient at this hospital, and has continued so ever since. He has taken a good deal of medicine, and had stimulating liniments applied to the part. At first he left his work for a fortnight, and at the end of this time was considerably better: he then resumed his work, and has since been gradually getting worse.

At present there is no increased heat of skin. He is easiest when lying on his back in bed. He complains of pain in the loins and the right hip; this shoots downwards along the back and outer part of the right thigh and leg. When he has been idle all day the pain does not trouble him, but after working it prevents his sleeping at night: there is also some tenderness in the course of the pain. Occasionally his right foot swells, and becomes cold; except after working hard; sleeps well; has a little headache and giddiness, and there is a slight heavy expression of the countenance; pulse 66, rather small; tongue clean; appetite good: he is rather thirsty; bowels open once daily. He was ordered to take three times daily—

Two ounces of the Guaiacum Mixture with 40 minims of the Ammoniated Tincture of Guaiacum, and to have the full diet.

Nov. 24th.—Pain no better; he makes more urine than he did; bowels open regularly. Ordered—

To increase the dose of the Tincture of Guaiacum to 1 drachm three times daily; a blister to be applied to the right hip, and the blistered surface to be dressed twice a day with 1 grain of the Hydrochlorate of Morphia.

Nov. 26th.—The pain is at all times less than it was, and much less whilst walking than formerly. Bowels freely opened.

28th.—Still improving.

29th.—Still some pain remaining; the former blister is healed. Ordered—

To repeat the blister and morphia as before.

Dec. 1st.—He has had no pain since the application of the last blister.

3d.—Some return of pain; the blister is well. Ordered—

To repeat the blister and morphia.

5th.—The pain is less, and he walks better than he did; the bowels are freely open.

8th.—He has still a little pain remaining.

To repeat the blister and morphia.

12th.—He has now no pain in the hip, and only a little in the calf of the leg.

15th.—He takes a walk daily, and feels better after it; there is still a little pain in the calf of the leg.

A stimulating liniment was ordered to be rubbed on the seat of pain.

18th.—Is now quite well, having no pain anywhere. Discharged.

*Clinical Remarks.*

From the symptoms present in this case on admission, it seemed very clear that the patient was suffering from an ordinary attack of sciatica. The pain differed in character from that attending rheumatism of the muscles; it was of a shooting kind, and extended down the back and outer part of the thigh precisely in the course of the great sciatic nerve. There was no pain or soreness of the muscles, neither was there any tenderness of any part except immediately over the nerve. In cases of neuralgia we generally find that the pain is much increased by pressure on the affected nerve. The importance of distinguishing between these two diseases is very evident, as sciatica is generally more obstinate in its nature than rheumatism, and the treatment of the two might be materially different. It has not yet been determined whether sciatica is or is not rheumatic in its nature, but however this may be, it is very certain that it has its seat in the great sciatic nerve. In this case the disease appears to have arisen from exposure to wet and cold, and this seems to be the most frequent cause of it. The treatment was commenced by the administration of the mixture and tincture of guaiacum. This is a remedy which sometimes proves serviceable both in sciatica and rheumatism. He continued to take it from the 20th of November to the 8th of December, but during this time other remedies were employed. The only effects noticed as proceeding from the use of it, were a great increase in the quantity of urine passed, and the free action of the bowels. These results from its use are frequently noticed, but they

are by no means constant. About four days after his admission a blister was applied to the seat of pain, and the blistered surface dressed twice a day with 1 grain of the hydrochlorate of morphia. Two days after this the pain was much less, and continued so; some pain, however, still remaining, a second blister was applied to the part on the 29th, and dressed in the same manner as the preceding one. On the 1st of September the patient told us that after the application of the second blister, he had no pain in the hip. On the 3d there was a return of pain, and in consequence of this remaining, two other blisters were afterwards applied and dressed in the same manner as the former ones: after this he had only a slight pain on walking. A stimulating liniment was applied to the part, and when he left the hospital he was quite well; instead of the pain being brought back by walking, he felt better and less stiff after it.

Dr. Taylor is of opinion that the really efficient remedy in the treatment of the case, was the blistering and application of morphia. The guaiacum seems to have no effect whatever on the disease, for whilst taking this alone the pain became no better, and relief followed immediately after the application of each blister; this relief being both permanent and progressive. Some physicians are of opinion that in the treatment of cases of sciatica in this manner all the credit is due to the morphia, and they entirely overlook the effect of the blisters. In such matters we can only look to experience to guide us.

For further and detailed information on this subject, Dr. Taylor directs attention to an excellent treatise on neuralgia, lately published by M. Valleix, a young French physician. This writer is of opinion that the application of blisters is the best and most successful that can be practised; and he arrives at these conclusions from an analysis of the facts to which he refers. Dr. Taylor thinks that there are strong reasons for believing that the blistering is the really successful remedy, particularly as we find that opium given internally has very generally little or no effect on the disease. It is important to determine this point, for it must be very evident that in the treatment of so troublesome and occasionally obstinate a disease, it is desirable that we should have some remedy upon which we can rely with certainty. The plan of blistering advocated by M. Valleix is the application of flying blisters, as the French term them. This consists in having the blisters very small, allowing them to heal immediately, and in applying fresh ones as the seat of pain changes. This is the treatment which he has himself put in practice, and which he finds more efficacious than any other. Particular portions of the nerve seem to be more liable to be attacked with pain than any others; these are the points at which they terminate. There are also various centres at which the pain is usually very great, as at the sacrum, great ischiatic notch, and at various other parts of the leg and thigh. We find an analogous case in hysteria, with spinal tenderness, where there is generally a good deal of pain on the side of the chest and under the mamma, at the points at which the nerves become cutaneous and near their terminations. Indeed, M. Valleix is of opinion that it almost amounts to a rule that in all cases of neuralgia, the nerve is more likely to become affected where it becomes cutaneous and at its termination than at any other part of its course. After the application of blisters the next best remedy in the treatment of this disease seems to be the internal administration of the oil of turpentine. Opium given internally generally has, as before noticed, very little effect on the disease.

## Proceedings of Societies.

### SOUTH LONDON MEDICAL SOCIETY.

March 19th, 1846.

EDWARD COCK, Esq. President.

MR. CHARLES TAYLOR read a case of tumor in the chest. The patient, a female of delicate health, æt. 50, had suffered from some nervous affection three years back. Her fatal illness was dated from last Midsummer. She was first seen by Mr. Taylor in January last, for symptoms referrible to the digestive organs, with constant difficulty in breathing, and was treated accordingly. The dyspnœa increasing, inquiry was made more fully regarding chest symptoms. The patient stated that the breathing, which had an hysterical character, had always been short; she could lie down on either side, but most easily on the back; never had inflammation of the chest, or pain in the side; very slight cough for the last week, but without expectoration. The countenance, for the last few days, had been turgid; hands cold, fingers bluish, pulse 110, feeble, but she had been employed about her usual work a fortnight previously.

On physical examination, the right side of the chest was prominent and rounded, distinctly larger than the left, but without intercostal fulness; it was dull as a board: posteriorly, no respiratory murmur was audible, but there was bronchial respiration to a limited extent between the scapula and spine. Voice modified, distant, and shrill. The left side posteriorly was preternaturally clear; respiratory murmur puerile; the voice

normal. Right side anteriorly was dull; no respiratory murmur throughout; voice as behind; on the left side the voice was normal.

The heart's sounds were regular and weak, but heard on the right side of the chest before and behind. Veins of the neck full; some whitish gelatinous matter was expectorated. It was regarded as a case of empyema, or extraneous growth in the pleura; and, on account of the patient's feeble state, ammonia and mild nourishment were allowed. The general distress and dyspnœa continued to increase, and the patient lay on her left rather than on her right side. No cough or expectoration present; drowsiness and delirium supervened, with slight œdema of the feet; the urine was albuminous on boiling. Dr. Addison, at this period, saw the patient, and coincided in the author's view of the case, and advised the use of Dr. Babington's exploring needle. She, however, sunk rapidly, and died the following day, the operation not having been performed.

*Examination* 15 *hours after death.* — On introducing a trochar between the seventh and eighth ribs, below the angle of the scapula of the enlarged side, only a drop or two of clear fluid escaped, and when a probe was passed it came in contact with a hard and rather elastic substance. On withdrawal of the canula, more serous fluid escaped. On opening the chest, the right pleura was found to contain upwards of four pints of straw-coloured serous fluid; the lung, compressed upwards, did not exceed the size of one normal lobe, and was destitute of air; there were no tubercles. Below the lung, and occupying the chief part of this side of the chest, was a round smooth tumor, rather larger than a fœtal head, having the pleura reflected over it, connected with the right side of the bodies of the seventh and eighth dorsal vertebræ by an almost cartilaginous neck; but it was uncertain whether it originated from the bony substance of the vertebræ or the intervertebral substance; some old bands connected the pleura covering it, and the lung had recent bands of lymph connecting it with the upper part of chest. The left lung was crepitant, but congested and œdematous. Heart small and atrophied. Pericardium and valves healthy. The liver, which was thrust down, was puckered, but otherwise healthy. Kidneys enlarged. The uterus had three or four tumors connected with it.

The tumor weighed $2\frac{3}{4}$ lbs.; it was generally hard and firm in structure, but was softened down in the centre, containing a cavity with softened walls; externally it was of cartilaginous hardness. Dr. Gull had since examined its structure by the microscope, and found that the opaque white spots in its centre are apparently fat cells, becoming soluble on the addition of ether, which on evaporation yielded up the fatty matter.

In the more solid portion of the tumor similar cells (fat cells?) existed conjointly with a number of nucleated cells (malignant?). The structure of the uterine tumors was different, the cells being more simple, and no fat cells being any where discoverable.

The author drew attention to the deficient symptoms of chest disease, dyspnœa of an hysterical character being the only symptom of long continuance. The physical signs may have arisen from fluid and solid deposits, nor would the exploring needle have rendered the diagnosis clearer, although paracentesis, by relieving the chest of fluid, might have prolonged life. The effusion was perhaps of mechanical origin.

Mr. Harvey Owen inquired as to the easiest position of the patient, which, in the case narrated, seemed to be on the healthy side, and which he considered very unusual, especially in cases where effusion existed.

Mr. Taylor stated that, in this case, the patient laid best on the sound side.

Dr. Barlow considered this position in some measure diagnostic of the condition which was discovered after death. He had seen the same in pneumothorax, as also had Dr. Stokes.

Dr. Gull thought, the fact of patients lying on the healthy side in cases of pleuritic effusion was by no means so unfrequent as was generally supposed; indeed, he was not sure whether under certain circumstances such a position was not the normal one. There were many cases occurring in practice where one side of the chest was enlarged and rounded from pleuritic effusion, and yet the patient might not be aware of any particular thoracic impediment; dyspnœa occurring only when an unusual demand was made upon the respiratory organs: in such cases as these he had often observed the decubitus was on the sound side. He had visited patients in the wards late in the evening with special reference to this point. It was a general and perhaps a true opinion, that there was no universal law which seemed to govern position in these cases. He would, however, submit, whether some of those instances which seemed anomalous might not be thus explained. If the side be enlarged and rounded by effusion, and the patient reclines upon it, the whole weight of the body will tend to flatten the side and press the fluid upon the mediastinum, and so interfere with the healthy lung. If, under the same physical circumstances in the chest, a patient lies upon the sound side,—instead of the whole weight of the body pressing the fluid upon

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he mediastinum, the weight of the fluid only would so press.

Dr. Barlow had observed that in incipient pleurisy the patient usually does not lie on the diseased side, as pressure on the inflamed membrane would cause pain. As the disease advances, the patient turns on the back, and afterwards on the diseased side. As a general rule, in large effusions, the patient lies on the diseased side; but perhaps, more frequently, on the scapular region of the sound side. The cases differ where adhesions are present.

Dr. Silvester found that patients had the greatest difficulty in lying on the sound side in cases where there is large effusion, here decubitus on the sound side threatens to produce suffocation.

Dr. Gull did not refer to extremely large effusions. In such cases patients could not lie down at all.

Dr. Munk referred to Andral's experience, and agreed with the opinions of Drs. Barlow and Silvester; it was, however, a matter worth inquiry, as many exceptions might occur.

Mr. Robinson considered that, in the first stage of pleurisy, decubitus was on the affected side; when effusion existed it was rarely on the healthy side, but on the back.

Dr. Silvester had noticed that patients became anxious to change their position to the opposite side as they recovered; this, he believed, arose from the fatigue of maintaining one position.

Dr. Chevers considered that Dr. Gull's observations were valuable, as showing how frequently exceptions may occur to what has usually been regarded as a general law. He had always considered that, in the greater proportion of cases of large pleuritic effusion, decubitus was on the diseased side. He had, however, seen a few instances in which the reverse occurred. He recollected that, in one or two of these cases, the disease was on the *right* side: the effusion was also on the right side in Mr. Taylor's case. Where there is extensive effusion on the left side, the heart is usually much displaced; and decubitus on the right is liable to produce dangerous interference with the action of that organ; but, where the right pleura only is involved, the heart is comparatively little interfered with. He inquired of Dr. Gull, and the other members of the Society, whether they had ever observed decubitus on the right side where there was a large effusion on the left.

Dr. Gull could not answer Dr. Chevers' question, not having observed with especial reference to the side on which the effusion occurred.

Dr. Barlow detailed the particulars of a case where decubitus was on the affected side.

Mr. Robinson drew attention to the position and nature of the tumor: it appeared to be only partially malignant; its origin was probably glandular; he had seen tumors formed of different structures—malignant and common; he also referred to instances where common tumors have become malignant under irritation.

Mr. C. Taylor replied to Dr. Munk, that, in his case, malignant tubercles were not found in the liver.

Mr. Hilton remarked on the frequent implication of the liver in malignant disease—probably from its proximity to the more usual seat of the disease, as malignant deposit probably occurred more frequently in the abdomen than in any other cavity of the body. The lungs became affected next in frequency; where the vertebræ and chest are affected, the liver, being last in order of circulation, would be affected last; he considered the tumor to be of glandular origin, but from the peculiar firmness of its neck, it was possible that it might have originated from the anterior ligament of the vertebræ.

Dr. Gull remarked on the large quantity of fat globules in the malignant portion of the tumor, but was doubtful whether they could be physiologically regarded as normal fat globules.

Mr. C. Taylor had observed a coexistence of albuminous urine with a more or less useless state of the lung in two or three cases; in the above case, the urine had only been subjected to the test of heat, the kidneys were not nodulated.

Dr. Barlow considered that in cases of albuminous urine with congestive disease of the chest, it was difficult to determine the original disease; not so in the case narrated. In Bright's disease effusion into the chest took place as a result of inflammation; other cases occurred where there was dyspnœa and chest affection, and the urine became flocculent on boiling; here the affection of the kidney was secondary: a gorged liver and heart often lead to a state of the kidney, producing albuminous urine, from which the patient may recover; the quantity of albumen was often small on account of the quantity of urine being diminished.

Mr. C. Taylor, in answer to Mr. Robinson's opinion, that the tumor had caused the effusion by its pressure on the thoracic veins, replied, that he could not discover that any vessels were compressed; the tumor was very moveable and almost floating.

Mr. Robinson thought that, if the effusion had been pleuritic, there would have been more albumino-fibrine present; he alluded to the comparatively slight distress produced where a fluid is gradually effused; this is particularly shewn in some cases of effusion into the brain: he alluded to a case of gradual effusion into the ventricles where the septum lucidum was destroyed without any evident symptom.

At the last meeting, Mr. Hicks narrated a case of supposed chlorosis with anæmia. An anæmic bruit was heard in the precordial region. The patient's condition was improved by the use of quinine and iron—when, after a long walk, syncope came on, followed by stertorous breathing, and inability to speak. The pupils were exceedingly dilated. He considered it to be a case of serous apoplexy, and treated it accordingly. The breathing assumed a blowing character, and death ensued. Mr. Hicks inquired—Did these symptoms arise from some organic cause, or merely from want of nervous energy? Did they arise from extreme congestion of the heart? If so, would they have been relieved by taking away a small quantity of blood?

Mr. Hicks now stated that he had made an inspection of the body, and had failed to discover any lesion which could produce death. The brain was healthy; the heart was free from valvular disease, its substance was soft and flabby, but it was questioned whether this had not depended upon decomposition. All the other organs were free from disease.

At the next meeting, April 2d, Dr. Munk will read some cases of Erysipelas.

## MEDICAL SOCIETY OF LONDON.

Monday, March 2, 1846.

Dr. Theophilus Thompson, President.

*Inflammation of the Brain in a Child.*

Mr. Dendy related a case of pure idiopathic cerebritis in a child eighteen weeks old, the only symptoms indicating the presence of the disease being convulsion and excitement, and contracted pupils. Two leeches were applied to the head, and sinapisms to the feet, which somewhat relieved the symptoms, but the convulsions returned, and the child died. The vessels of the brain were found turgid with blood; the medullary matter was studded with red points; there was a small portion of lymph between the membranes, which were all congested. There was no internal hydrocephalus; the ventricles were nearly shut up. There was no appearance of scrofulous disease.

In the discussion which ensued on this case, various gentlemen took part. It had reference chiefly to the indications presented for depletion, or for abstaining from it, and to the essential characters and causes of inflammation.

*Stricture of the Rectum—Constipation for thirty days.*

Mr. Pilcher exhibited a preparation, illustrative of a case which he had attended with Dr. Aldis at the Surrey Dispensary. The patient was a woman, forty-six years o age, who had enjoyed tolerably good health until four or five weeks since, when she was seized with vomiting and slight purging, followed by constipation, and a distended and tympanitic abdomen. All the food she took was retained, but the medicines administered returned. The abdomen was very large, and the convolutions of the intestines and their peristaltic motion could be distinctly seen through the external parietes. The remedies consisted of purgatives of all kinds, including the administration of croton oil by the stomach and rectum. The uterus, on examination, was found normal; the rectum appeared to be folded on itself, but the finger detected what appeared to be fæcal matter; this proved, however, not to be the case. Repeated injections were administered only to return. The patient died at the expiration of thirty days from the commencement of the constipation. She was not much sunken until about two hours before death. On opening the abdomen and turning aside the coverings, fæcal matter was observed to have escaped into the cavity of the peritonæum; this matter had passed through minute pin-like holes in the colon. The colon was much enlarged, and the signoid flexure ulcerated, but not to the admission of the escape of fæces, as an apple-pip was impacted in the ulcerated opening. This was probably the pip of an apple eaten twenty-four hours before. The rectum was much distended, and a stricture existed about its middle, which effectually blocked up the passage. It was interesting in this case, that the woman continued healthy until the time mentioned; she had been the subject of habitual costiveness: was it probable that the pressure exerted by the distended colon was the exciting cause of the deposit in the rectum, and the after ulceration? The absence of vomiting was a peculiar feature in the case. The small intestines were not distended by fæces but by gas. The fæces were natural in character.

Mr. Hilton remarked, that vomiting was a symptom of distension of the small intestines with fæcal matter, but not of the large.

Dr. Aldis agreed in the opinion just expressed by Mr. Hilton; he added to the history of the case, the fact that the tongue was healthy and clean, there was little constitutional disturbance, but there was pain as flatulence suddenly increased or decreased the peristaltic action. With respect to the treatment, the injection of air it was thought might be of service, but it was tried and failed. Liquid injections all returned. Ptyalism had been produced by calomel and opium without success.

March 16, 1846.

MR. DENDY, PRESIDENT.

On taking the chair, the new President gave an address. He spoke of the classic associations connected with the spot in which the Society met—a spot consecrated by the names of Lettsom and of Jenner, and of other great men, who had been connected with the foundation or the early career of the Society. He stated the fact, that Lettsom had himself paid for the first Fothergillian medal, and gave to the Society the house in which they were then assembled. He urged on the members the necessity of bringing papers before the Society, and spoke of the value of giving the discussions a purely practical character. He alluded to the publication of a new series of "Transactions," the first volume of which was on the table of the Society. Thanks having been voted to the various office-bearers,

Mr. STORKS read a

*Case of Popliteal Aneurism successfully treated by pressure.*

The patient, John Romer, aged thirty-two, tailor, an unhealthy man, was admitted at Blenheim-street Dispensary, Sept. 7th, 1845, with popliteal aneurism of the left leg. The treatment by compression, with Signoroni's tourniquet, was commenced Sept. 12th. The pulsation ceased on the twentieth day, but returned on the twenty-second day, accompanied with great swelling, tenderness, and increase in size of the tumor. Some leeches were applied; the tenderness subsided, but the swelling, pulsation, and bruits, remained. During the last forty-four days of the treatment, direct pressure by a pad and bandage was made on the aneurism, under which treatment the pulsation and bruit had ceased on the 12th of December, 1845, the treatment having occupied ninety-one days. Mr. Storks adverted to the statistics collected by Mr. B. Phillips, which proved the dangerous results to be expected from the Hunterian operation, and stated that, of sixteen cases subjected to treatment by compression, contained in a table accompanying the paper, only two had been unsuccessful, as far as the life of the patient was concerned; and in fifteen of the cases the disease had been cured. Mr. Storks remarked, that, in the two unsuccessful cases, one (that of Mr. C.) could hardly be considered unsuccessful, as far as the question of this plan of treatment was concerned, the patient dying from disease of the heart forty-eight hours after pulsation had ceased in the aneurism. In the second case, Mr. Storks attributed the want of success to the great irritability of the patient, and to the fact of the pressure being used too forcibly at first. It was a matter of importance to ascertain what changes were produced in the artery at the point of compression, and whether such changes were calculated to embarrass the operator, or affect the success of the operation. He alluded to three cases in which an opportunity was afforded of examining the artery during life or after death, and nothing but slight condensation of the sheath was found to have taken place. After some observations on the leading points in the above case, and some statistical deductions from the table accompanying the paper, Mr. Storks concludes by urging the necessity of pressure being fairly tried before the Hunterian operation was resorted to.

In answer to questions, Mr. Storks stated that only one instrument was used; the patient shifted it himself. There was no evidence of any disease in the system, but the patient had an irritable heart. The knee-joint was not enlarged, but the artery was in much the same condition as though the Hunterian operation had been performed; the tumor was solid and pulseless.

Mr. HANCOCK doubted if the case were cured. The swelling in the ham, and twitches in the leg, which still existed, made him doubt the entire success of the operation. He showed, by statistics, that the operation for popliteal aneurism was less dangerous and fatal than represented in books. He related some successful cases which had occurred in his own practice.

Mr. CRISP said, that the fallacy existing respecting the statistics of operations for aneurism, consisted in Mr. Phillips having confined his accounts to aneurism of the larger vessels. In popliteal aneurism the failure by operation would be found to be nearer one in fifteen cases than one in three. In many cases he believed that pressure would do away with the necessity for the ligature. In Dublin, such was the feeling in favour of pressure, that no surgeon would tie the femoral artery until compression had failed. He believed that when compression was properly applied, it would be generally successful. The comparative danger of the two proceedings, that of ligature and pressure, was decidedly in favour of the latter, and if pressure did fail, it only rendered the case more favourable for the employment of the ligature.

Mr. STORKS said that his case was as completely cured as it could have been by ligature. He defended the treatment by compression, and showed that, when properly applied, it had been always successful.

Mr. HANCOCK recollected a case successfully treated by the late Mr. Lynn, fifteen years ago, by compression. He abstracted blood occasionally.

Mr. HIRD said that the treatment by pressure was very old, though now it was

somewhat modified. He regarded the ligature of the femoral artery, even by the improved operation of Scarpa, as a hazardous proceeding. Were all cases of popliteal aneurism equally favourable for compression? In the case of Mr. Storks, the man was not healthy: if healthy, would it have rendered the treatment less efficacious? He bore witness to the accuracy of Mr. Crisp's statement regarding ligature of the femoral artery by the surgeons of Dublin. The appearance in this case, and in others treated by compression, was such as obtained after ligature. He should be of opinion that the aneurism was less liable to return after compression than after ligature.

## Correspondence.

### ON UTERINE HÆMORRHAGE BEFORE AND AFTER DELIVERY.

Sir,—Your correspondent, Mr. Adams, in his reply to my observations on his paper, expresses himself as by no means satisfied that hæmorrhage in connexion with sloughing may not take place before the entire separation of the slough. Doubtless it does so occur; we have most frequent opportunities of witnessing it in the wards of hospitals. My observations, however, referred to hæmorrhage, which I believe then to be nearly always passive, setting in for the first time on the entire separation of the slough.

Your correspondent seems to feel a difficulty in comprehending *how I ascertained that sloughing did not take place* (in my reported case), *nor laceration, but that the flooding was connected with relaxation of the uterus*. I will do my best to remove that difficulty.

1st. As to the question whether the flooding under the circumstances of my patient's labour arose from sloughing.

Sunday, at 5 A. M.—Attention was first called to the case on account of flooding, in connexion with partial placenta prævia, the orifice of the uterus being then dilated only to the width of the index finger. The vagina was then plugged, and the patient, whose interest had been seen to in proper time by the gentleman through whose kindness I saw her, was thus secured from further loss. Hitherto the patient had had pains scarcely worth mentioning, few, feeble, and far between, and now they had left, so that the business of labour could hardly be said to have duly commenced. Thus the patient proceeded throughout the day, no action whatever supervening upon the use of the plug, until about seven in the evening; and not until 8 P. M. sufficiently strong and frequent to justify the removal of the sponges. The plug being then (8 P. M.) withdrawn, the orifice of the uterus was found three-fourths dilated. The head reached the bony outlet of the pelvis without any arrest from want of space at half-past one on Monday morning, and now remained without any further progress, although the pains returned in average force at short but distinct intervals. A considerable protrusion of scalp took place, and a puffy tumor formed upon it. The child was delivered at 6½, A. M. by the crotchets, the forceps being previously applied during three minutes without avail. The delivery by the crotchets was not a difficult matter; it was not protracted, owing to my uniform practice of completely evacuating the contents of the cranium before making traction. On account of the perineum (a primara, æt. 38,) more time was given; the head was brought through at the end of a quarter of an hour, and after an interval being allowed of three or four minutes, the rest of the child's body.

I interfered here sooner than I might otherwise have been inclined to do, the arrest having lasted so short a time (five hours), and that without any general febrile disturbance, on account of exhaustion supervening, (and sooner, no doubt, on account of the harassing events of the morning); the pains having again subsided, (as if by a wise provision), there appearing to the taxis some disproportion, the parts getting heated, that peculiar brownish secretion appearing to which I have before alluded.

There was nothing in the appearance of these parts on delivery, which alone had sustained a continued pressure, or in the character of the subsequent lochial discharge, to warrant even a remote suspicion that death of the tissues would take place, much less *had* taken place, as imputed by your correspondent.

There was ample explanation, it appears, on the contrary, for the sloughing, which Mr. Adams describes to have taken place in his own case, his patient not having been delivered, as he observes, till the *end of the fifth day* of her labour.

2dly. How did I infer that the hæmorrhage did not arise from laceration? Mr. Adams not being quite confident, after my last reply, that the hæmorrhage *was* the effect of sloughing, as he *at first* conjectured, now thinks it probable that it arose from laceration, and the more especially that, "as there was intense heat in the vagina the vessels there must have been in a preternatural state of activity, and any of those slight lacerations which *so frequently* occur in delivery, more especially in instrumental delivery, would naturally occasion a serious discharge of blood." In reply, I may here

observe I did not allow my patient to wait till there was *intense heat in the vagina*, which he gives as a quotation from my paper. The expression is, *the parts were getting heated*. I have frequently been called to patients where the heat in the vagina has been correctly speaking *intense*. I have described it in my lectures as stinging, biting, or mordant heat, a state of things which I hold to be a contraindication to the use of the forceps; at all events, being present, it should first be removed, if the patient's condition will bear it, by the appropriate general measures.

Had there been laceration by the forceps in this case, I may further remark, that blood would have appeared on the blades in their removal, and the hæmorrhage would not, I think, have then set in for the first time, after the lapse of twenty minutes from the child's birth.

I may moreover observe, that their application did not extend beyond three minutes; they were introduced, employed, and removed most gently, agreeably to the precautions carefully laid down by me in my lectures.

The subsequently rapid recovery of the patient as also shows, that no injury was inflicted.

3dly. My belief that the relaxation of the uterus was the cause of the hæmorrhage, rests on the soft flabby condition apparent to the touch of the organ, and which was not made to *appear flabby and large by accumulation of blood so as to excite expulsive pains*, as neither of these were present in the case. The blood escaped in a fluid state without any clots, as fast as it was poured out; it was not retained; and as the uterus contracted, and became hard under the touch, so far from the flow being increased, which it would have done had there been accumulation, it entirely ceased.

I perused Mr. Adams' paper on its first appearance, and read his exposition of his views with considerable interest. I could not, however, agree with him in his very sweeping conclusion that lacerations of the os tincæ, vagina, and perineum, are so very frequent in the present day as he represents; although I am of opinion that they might, by more cautious proceedings, by trusting more to nature and less to art, than some are in the habit of doing, be rendered less frequent than they are.

As respects the theory of active hæmorrhage, which your correspondent maintains, and is *desirous of establishing*, and, if I understand rightly, to the exclusion altogether of relaxation of the womb as a cause of that accident, I think it might *sometimes* be tenable; as, for instance, when a patient has sustained hæmorrhage immediately upon delivery after a difficult labour, in the progress of which she has been allowed to become very feverish, without her case having been met by the appropriate treatment for the removal of such condition. And also in explanation of the hæmorrhage, which sometimes takes place from the uterus several days after delivery, and sometimes for weeks, more especially in those who refuse to, or cannot perform the natural function of lactation.

I have the honour to remain, sir,
Yours obediently,
JOHN HALL DAVIS, M.D.

17, Russell-place, Fitzroy Spuare.

## ON THE FUNCTIONS OF THE MOTOR OCULI NERVE.

SIR,—In the last number of your journal (March 6th), you have published a paper of Valentin's, translated by Mr. France, "on the Functions of the Nerves of the Orbit," which I have been much interested in reading, from its containing a theory with regard to the function of the third or motor oculi, precisely similar to one I advanced more than nine years ago, and which was contained in a paper you did me the favour to insert in your journal for Dec. 1836. At the time I wrote my paper, I believed I was the first to state the probability of the third nerve exercising a voluntary power, through its superior division, over the levator palpebræ and superior rectus muscles, and an involuntary power, through its inferior division, over the muscles it supplies; namely, the internal rectus, the inferior rectus, and inferior oblique. I also considered the actions of the superior oblique and external rectus, and entered minutely into the actions of the muscles of the orbit generally.

My object in now addressing you is to beg the favour of your allowing me to call Mr. France's attention to the paper I refer to—not to the theory generally, which I advanced, (which I see differs in some respects from Valentin's), but to the point with regard to the functions of the third nerve only. I do not know when Valentin's paper first appeared, but, whether before or after mine, I am equally gratified to find the view I took of the subject so closely resembles the one advanced by so high an authority. If not occupying too much space in your valuable journal, I will make two or three extracts from my own paper, illustrating the views I advanced in 1836, and compare them with those contained in Valentin's paper in your last number.

After considering the various actions of the muscles of the orbit, which I do not now wish to enter upon, I state—"It is upon this division of the third nerve into its two branches that I mean to explain the action of the remaining muscles, and wish to show,

that the inferior or ganglionic portion governs the involuntary or sympathetic motions of the eye-ball, while the superior or ganglionless portion governs the voluntary motions. In order to support this theory that I have advanced, we must see if these two sets of muscles are so employed, and ascertain if the inferior rectus, internal rectus, and inferior oblique, are used involuntarily or sympathetically, and if the levator palpebræ and superior rectus are used as voluntary muscles." I then give my reasons for supposing such to be the case, and must refer to my paper to explain them. After considering the actions of the various muscles, I say: "This, then, is the explanation I should offer of the action of these muscles, and of the functions of the nerves distributed to them, which I fear, however, some may think complicated, and that many may have objections to advance against them. I merely offer it as one that appears to me plausible, from the fact of its classifying the different muscles in a manner that agrees with their peculiar action, and with the peculiar distribution of the nerves that supply them. The view that I have taken of the superior division of the third nerve being the voluntary portion, and the inferior the portion that governs the sympathetic movements of the eyes, I am not aware to have been advanced before; and it appears to me to be probable, since what I have called the voluntary portion certainly supplies two muscles over which we have perfect command; namely, the levator palpebræ and superior rectus; while the inferior portion supplies muscles, which chiefly sympathise with those muscles that I have called voluntary, and never act by themselves until these latter muscles are relaxed; and this sympathetic action is gained by the peculiar connection of the inferior division of the third nerve with the lenticular ganglion and the fifth nerve, which is known to give sensation to the eye, and to be the nerve that excites many of the involuntary motions which exist between the eyeball and eyelids, which motions are produced by this lower division of the third, and by the fourth nerve. There is another action also which goes to prove this lower portion of the third nerve to be involuntary; namely, the action of the iris, which is found to be influenced by it from experiments that have been made, and which motion we know to be sympathetic only, and to be dependent on the impression made upon the retina, and not upon any voluntary stimulus that we can give the iris itself."

I shall extract the passages from Valentin's paper which so closely resemble mine: he, however, makes use of the term "automatic," instead of "involuntary or sympathetic," which I have employed: he says—

"The superior division of the motor oculi, then, is evidently expended on voluntary muscles: the inferior, however, is for the most part, if not entirely, employed in supplying the internal and inferior recti, together with the inferior oblique and the iris. That the iris is only moved automatically, is incontestable; for we shall prove the motions, termed voluntary, to be merely reflex actions in conjunction and connection with actions of the muscles of the globe. The remaining muscles have either principally or exclusively automatic power, as the obliquus inferior; or both automatic and voluntary, as the rectus internus and rectus inferior; and by far the most remarkable automatic motion, being that which exists during sleep, is performed by them; as the eye is then drawn upwards and inwards from contraction of the inferior oblique, and rectus internus. During this action, the pupil becomes contracted: and this likewise occurs, if, as in strabismus convergens, we direct both corneæ to the inner canthus;—a movement either executed in an arc, the globe being first directed inwards, and then downwards or upwards; or directly, when it is at once drawn straight inwards. In the former case the rectus internus is in action, together with the inferior rectus or superior oblique; or with the inferior oblique; in the latter, the rectus internus alone contracts; while the rectus inferior, and inferior oblique, are so balanced, that the eye is not directed either upwards or downwards. Hence we see that the principal automatic motions of the globe are effected by parts supplied from the inferior division of the motor oculi nerve; and this proposition is countenanced apparently both by human and comparative anatomy. We elsewhere proved that the nucleated globules of the ganglia especially assist in automatic motion."

Again he says:—

"The foregoing theory,—that the superior division of the motor oculi governs the voluntary motions of the globe; and the inferior, the involuntary,—is easily deducible from the systematic arrangement of the muscles. The muscles chiefly voluntary (and I use the expression because every muscle of the body may, under certain conditions, exhibit automatic action, whilst the automatic muscles are either altogether independent of, or from exceedingly unusual causes only, are subjected to volition), are: the external rectus, directed by the abducens nerve; the superior oblique, by the pathetic; and the superior rectus, by the superior division of the motor oculi. Those chiefly automatic are:—the internal and inferior recti, and inferior oblique governed by the inferior division of the motor oculi. The whole globe, in respect of the points at

which the muscles are attached to it, is then, as it were, surrounded by a circle; of which the upper and outer portion is made up of muscles chiefly voluntary, and the lower and inner portion of those chiefly automatic.

The two mainly voluntary recti, the superior and the external, are antagonized by the two, chiefly automatic, the inferior and the internal; while the voluntary superior oblique is in the same way opposed to the automatic inferior."

I have not referred to the other part of my own, or of Valentin's paper, since it is upon the function of the third nerve principally that the classification of the muscles depends. I see that Valentin considers the fourth as a voluntary nerve; I believe, with Bell and others, that it is quite involuntary.

I have the honour to remain,

Your obedient servant,

EDWARD F. LONSDALE.

82, Guildford Street, Russell Square,
March 12th, 1846.

## CONGENITAL ABSENCE OF THE CORPUS CALLOSUM.

SIR,—At the meeting of the Medico-Chirurgical Society on Tuesday last, the 10th inst. an interesting preparation of the brain of a girl, in which the corpus callosum and other portions of the central part of that organ were absent, was brought forward by Mr. Paget, of St. Bartholomew's Hospital, and it was then stated that hitherto only two other similar cases had been noticed, one occurring to Mr. Solly, and the other to a person whose name escaped me.

Not being aware of the subject to be brought forward, I had not referred to my notes before attending the meeting, and being unwilling to trust to my memory, I did not wish to add another to the numerous ill-observed facts with which the records of medicine abound, by describing a fourth instance of this defect of the great commissure of the brain which had occurred in my own practice. Having now, however, looked over my notes, imperfect as they are, I think the account of my case may deserve to be placed on record in the pages of your journal, though the absence of the corpus callosum being attended with other more important defects, and occurring in an infant, render this case far less interesting than its predecessors, psychologically.

The birth of the child, a boy, was easy, but the mind of the mother had been much disturbed during her pregnancy by the conduct of the father. It was a first child, and illegitimate; but it had arrived at its full term, and was of the ordinary size, and well formed, except about the head. The scalp over the frontal and parietal bones was thrown into large longitudinal folds by the depression of these bones, above which the angle of the occipital projected nearly an inch, presenting under the cap the outline of a back comb rising above the vertex. There was little or no forehead, the frontal bone sloping backwards immediately above the eyes; nor was any fontanelle detectable.

The child was subject to convulsions from birth, and its fingers were always clenched over its thumbs. It was troubled with a constant cough and discharge of watery mucus from the eyes and nose; the appetite was voracious, but the stools resembled those of the dog or cat rather than of a human being, from the absence of healthy bile. It could hear and see till a short time before death, but it gave no sign of intelligence, scarcely recognising its nurse; and it had increased but little in size or strength during the eleven months of its life, which was terminated by diarrhœa, attended with violent convulsions, and inability to take food when forced into its mouth.

*S. C.*, 56 *hours* P.M.

The weather being very hot (June 24th), decomposition had begun. Only the head was examined, and that not very carefully, from the opposition of the father.

The scalp had become less wrinkled, and the occipital bone less prominent, than at the birth. To obtain an horizontal section of the skull, I was obliged to apply the saw just above the orbits. The skull-cap was twice the ordinary thickness, and very vascular. The sutures were all closed. The dura mater was thrown into a fold a third of an inch wide to fill up the angle of the occipital with the parietal bones.

The brain was about 5 inches long by $3\frac{1}{2}$ wide, and $2\frac{1}{2}$ thick; it was not vascular, but was firmer than natural. The lateral ventricles were distended by about $1\frac{1}{2}$ ounces of serum, which ran out on attempting to raise the cerebrum. The nerves were all perfect. The cortical portion was very superficial, and separable from the medullary part, apparently from the absence of convolutions to dovetail them together. The cerebellum was equally deficient in cortical matter. When the brain was taken out and laid upon the table, the two hemispheres fell asunder, even the tuber annulare splitting into two equal portions, the decussation of the optic nerves being the sole connection of the two sides of the cerebrum. The central portions of the brain were so rudimentary as scarcely to be distinguished. The whole contents of the skull did not weigh more than a quarter of a pound.

The state of the scalp and bones of the cranium at birth, in this case, seem to contradict the idea that the growth and formation of the skull correspond to those of its contents; for there was decidedly as much loose skin and development of bone, particularly of the occipital, as would have

sufficed for an ordinary-sized head; and even if we allow the brain to be compressible, the easy birth, and the form of the head, would preclude the notion that the bones were compressed during the progress of the labour. Neither were there any remains of a cyst, or membrane, to indicate that the brain had been arrested in its growth by a serous deposit, which, having preserved the normal shape of the head before birth, had given way, and allowed the bones to collapse during parturition. From the thickened fold of the dura mater, it is clear that this membrane also was originally of its normal extent.

That the child was an idiot there could be no doubt, and its cry was even less expressive than that of a puppy, nor had it the tone of an infant's voice.

I often visited the child during its life, but I never remarked any want of coordination in its movements.—I am, sir,

Your obedient servant,
T. Ogier Ward, M.D. Oxon.

9, Leonard Place, Kensington,
March 12, 1846.

## Medical Intelligence.

### ROYAL COLLEGE OF SURGEONS.

Mr. Liston has been elected a member of the Court of Examiners in the Royal College of Surgeons. Mr. Callaway, who stood the next in succession to Mr. Green, declined to be put in nomination for the office which had been rendered vacant by the resignation of Mr. Anthony White.

### THE ELECTRICAL GIRL.

We have not hitherto noticed the feats of Angelique Cottin, a girl, æt. 14, said to be so charged with electricity as to enable her to overthrow tables and chairs by mere repulsion, to distinguish the poles of a magnet by sensation, and by the mere approximation of her arm to turn the magnet permanently from its meridian! We should have thought the Academy of Sciences might have occupied itself in a better way than by appointing a Committee of seven wise men to investigate that which upon the face of it was a gross imposition. M. Arago, who takes the lead in these matters, has with his colleagues furnished a report, which shows that the members of the Academy are too ready to take up the examination of all sorts of absurdities, provided they be only put forward with boldness. What a field for inquiry would the feats of Herr Döbler furnish! And what an excellent advertisement for jugglers, would the occasional appointment of Committees to inquire into the reality of their tricks become! In this matter the Academy appears to us to have received a lesson, by which it ought to profit. A Scientific Society not only lowers itsel on these occasions, but actually aids the cause of imposture by giving a spurious notoriety to the tricks of charlatans and jugglers.

It was alleged that Mademoiselle Cottin had the power of strongly repelling all bodies by the mere contact of her dress. The Committee observed nothing of the kind. It was stated that by approximating her arm to a magnetic needle it underwent rapid oscillations; but no effect was observed by the Committee in a needle delicately suspended. The Committee also satisfied themselves that she did not possess the power of distinguishing the poles of a magnet by touch. The only striking facts observed were that the chairs upon which the girl sat down, underwent very sudden and violent displacement! The Committee then, seriously suspecting something wrong, informed the patrons of the Electrical Girl that it was their instruction to examine closely what share the hands and feet of the said girl might take in these sudden displacements of the chairs. They were then told that her attractive and repulsive powers had for the time left her, but that notice should be given to them when they returned. Some days elapsed, and although the electrical (!) phenomenon has been publicly exhibited as usual, the Committee had not been invited to carry on their examination. Hence they recommended that the subject should be treated as if the Academy had received no notice of these performances of Mademoiselle Cottin! *Parturiunt montes*, &c.

### MORTALITY IN THE METROPOLIS FOR THE YEAR 1845.

*Population in* 1841.

| | |
|---|---|
| Males . . | 897,013 |
| Females . . | 1,018,091 |
| Total population | 1,915,104 |

Annual increase, 1831,—41 = 1·55.

*Deaths in* 1845.

| | |
|---|---|
| Males . . . | 24,496 |
| Females . . | 23,836 |
| Total deaths . | 48,332 |

Annual rate of mortality per cent. on a basis of 4 years, 2·448, or nearly 1 in 41.

The respective numbers of deaths according to *ages* were—

| 0 to 15. | 15 to 60. | Above 60. |
|---|---|---|
| 22,633 | 15,838 | 9806 |

The mortality in the respective quarters was in the

| | | |
|---|---|---|
| Quarter ending March | 20 . | 14,528 |
| ,, June | 28 . | 11,267 |
| ,, Sept. | 27 . | 10,842 |
| ,, Dec. | 27 . | 11,695 |

The mortality in the respective districts was in the

| | Population, 1841. | Deaths in 1845. |
|---|---|---|
| West districts | 301,326 | 7,336 |
| North ,, | 366,303 | 8,648 |
| Central ,, | 374,759 | 9,150 |
| East ,, | 393,247 | 10,643 |
| South ,, | 479,469 | 12,550 |

Mortality in 1845, from the most important special causes :—

| | |
|---|---|
| Small-pox | 909 |
| Measles | 2318 |
| Scarlatina | 1085 |
| Hooping Cough | 1816 |
| Croup | 352 |
| Typhus | 1301 |
| Sudden deaths* | 532 |
| Hydrocephalus | 1723 |
| Apoplexy | 1133 |
| Convulsions | 2395 |
| Bronchitis | 1686 |
| Pneumonia | 3896 |
| Phthisis | 6731 |
| Diseases of the Lungs | 724 |
| Diseases of the Heart | 1561 |
| Teething | 720 |
| Childbirth | 402 |
| Violent deaths | 1329 |

The above facts have been compiled from the large Table of the Annual Mortality of the Metropolis, issued by the Registrar-General. We regret that it is not in our power to show the ratio of mortality from the above important diseases at *different ages*; but on this subject, the Table is wholly silent. The mortality at different ages is given for each *week*, but not for the different diseases. It appears to us that it would be a great improvement, if the relative mortality, according to age, were given for a selected number of diseases, since this would throw much light upon numerous questions connected with medical practice and opinions.

### THE LIGHTNING CASE AT ROUEN.

In our last volume† we gave a slight notice of a singular case which had occurred in France, in which it was a question whether damage had been done to certain buildings by the direct action of the electric fluid, or by some atmospheric disturbance independently of lightning. The Insurance companies refused to pay the amount of the policy, as they denied that the effects were due to lightning, against which only the proprietors had insured themselves. At the trial, much scientific evidence was brought forward with unfortunately the usual result, *i. e.* of puzzling the Court. The *savans* gave contradictory or indecisive opinions. From a recent number of the Law Times,* we learn that the Cour Royale of Rouen has just given its final judgment on the question. They have decided that it was a disaster occasioned by the atmosphere, and without entering into the various theories of storms, have condemned the Companies to pay the amount claimed.

* In these 532 cases, inquests were held, and the *causes* were *not ascertained*. Why were the inquests held, and in what way has society benefited by the holding of such inquests?—Ed. Gaz.

† Vol. xxxv. p. 1133.

### OBITUARY.

On the 18th inst. James M'Dowell, Esq. of 46, Portland Place, and of East Bridgeford, Notts, late senior member of the Medical Board of Bengal.

## SPECIAL PATHOLOGY.

### REMARKABLE CASE OF VOLVULUS AND STRANGULATION OF THE INTESTINE WITHIN THE ABDOMEN. BY JAMES M. GORDON, M.D.

The subject of this case was a man, 35 years of age, of vigorous health, who was attacked with the most excruciating pains in the abdomen, with partial remissions, attended with obstinate constipation, which resisted all means of relief, and the patient expired in intense agony thirteen days after the attack.

On post-mortem examination the ileum was found dark-red (almost black), an appearance which extended through all the coats of the bowels, and also to the mesenterg. There was an intussusception of about an inch and a half in length, at about four inches above the termination of the ileum. So firmly had the coats of the intestine become agglutinated, that they presented the appearance of a fleshy tumor, blocking up its entire cavity. It was also observed that the ileum had made a complete revolution upon itself, with the peritoneum as its axis, so as to strangulate a fold of intestine five inches in length. The first point of strangulation was immediately above the intussusception, and the second twelve inches above the last. They were twisted around each other so as to form a knot, which was with difficulty relieved after the morbid specimen had been removed from the body. The incarcerated noose of intestine presented an almost black colour, and was greatly distended with gas. About twenty inches of intestine were involved in the congestion. The points where the intestine passed around itself were of a dull white colour, presenting a striking contrast with the surrounding parts.—*American Journal of Medical Sciences, from the Southern Medical and Surgical Journal*, August, 1845.

* March 14th.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *March* 19th.—John Marshall, Ely, Cambridgesh.—John Morris Bennett, Broseley, Shropshire.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, Mar.* 14.

| BIRTHS. | | DEATHS. | | *Aver. of 5 yrs.* | |
|---|---|---|---|---|---|
| Males.... | 752 | Males.... | 455 | Males.... | 493 |
| Females . | 750 | Females . | 447 | Females . | 475 |
| | 1502 | | 902 | | 968 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 146 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 178 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .....(Pop. 374,759) | 148 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .....Pop. 393,247) | 180 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .....(Pop. 479,469) | 250 |
| Total ..... | 902 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Winters; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 902 | 1080 | 967 |
| SPECIFIED CAUSES ..... | 899 | 1073 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 163 | 183 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 93 | 115 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 153 | 169 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 272 | 363 | 294 |
| 5. Heart and Blood-vessels ..... | 39 | 30 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 74 | 69 | 72 |
| 7. Diseases of the Kidneys, &c... | 15 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 12 | 12 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 7 | 7 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 6 | 2 | 2 |
| 11. Old Age..... | 41 | 90 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 24 | 27 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 6 | Convulsions .... | 32 |
| Measles ..... | 24 | | |
| Scarlatina ..... | 18 | Bronchitis ..... | 39 |
| Hooping-cough.. | 63 | Pneumonia..... | 68 |
| Typhus ..... | 29 | Phthisis .....132 | |
| | | Dis. of Lungs, &c. | 15 |
| Dropsy..... | 10 | Teething ..... | 11 |
| Sudden deaths .. | 8 | Dis. Stomach, &c. | 11 |
| | | Dis. of Liver, &c. | 6 |
| Hydrocephalus .. | 39 | | |
| Apoplexy..... | 20 | Childbirth ..... | 7 |
| Paralysis..... | 19 | Dis. of Uterus, &c. | 3 |

REMARKS.—The total number of deaths was 178 below the winter, and 66 below the annual average. Hooping-cough is still very prevalent and fatal. In all the districts, the mortality was below the averages.

## METEOROLOGICAL SUMMARY.

| | |
|---|---|
| Mean Height of Barometer ..... | 30·24 |
| „ „ Thermometer[a]..... | 44·2 |
| Self-registering do.[b] ..... | max. 73·5 min. 20·5 |
| „ in the Thames water. | — 49·5 — 45·5 |

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·08: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was rather above that of the mean temperature of the month (43·9°). The extreme hebdomadal range in the self-registering thermometer was 53°.

## BOOKS RECEIVED FOR REVIEW.

Sir B. Brodie's Lectures on Pathology and Surgery.—Todd's Cyclopædia of Anatomy and Surgery, Part 27.—Instructions for making Unfermented Bread, by a Physician.—The American Journal of Insanity, October 1845.—Mr. J. M. Adams on Tubercle of the Brain in Children.—Reichenbach's Abstract of Researches on Magnetism, translated by Prof. Gregory.—Lindley's Vegetable Kingdom.—The Registrar-General's Circular.—Lawrence's Hunterian Oration.—The People, by M. Michelet.—Dr. Wilson's Medical Notes on China.

## FOREIGN MEDICAL BOOKS

LATELY PUBLISHED.

Beiträge zur experimentellen Pathologie und Physiologie, hrsgb. v. L. Traube, Pt. 1.—Blasius, Lehrbuch der Akiurgie.—Brach, Lehrbuch der gerichtlichen Medizin.—Detroit, Cursus der Geburtskunde, 3 vols.—Ergebnisse, klinische Gesammelt in dem koenig. Polyklin. Institute der Universität. von Henoch und Romberg.—Haase, Wesen, Ursache und Heilung des Stottern.—Herrig, uber Gebärmutter-Polypen.—Horn, Lehrbuch der Geburtshülfe.—Kortüm, Studien g. Heilkunst.—Liskourus, Physiologie d. menschl. Stumme.—Schmidt, Darstellung der Gestalt-Entwicklung des menschlichen Organismus.—Taschenbuch für Aerzte, herausgeg. von J. Nader.—Tourtual, Bau des menschlichen Schlund- und Kehlkopfes.—Walther, über klinische Lehranstalten in stadtischen Krankenhäusern.

## NOTICES TO CORRESPONDENTS.

Mr. Alexander's letter has been received, and will be published next week.

The communications of Dr. T. Thompson, Mr. King, Mr. Copeman, Mr. Olley, and Dr. Grayling, will appear in the ensuing number.

*Received.*—Dr. Murphy.—Mr. Erichsen.—Dr. Wardell, No. 5.—Dr. Thibert.

*Erratum.*—In the extract from Dr. Murphy's Lectures, at page 527 of our last number, col. 1, five lines from the top, the sentence should stand thus:—"The head of the healthy male child is rounder, and the fontanelles smaller. That of the female more oblong, and the fontanelles more distinct."

## Lectures.

### LECTURES ON CERTAIN METALS & METALLIC PROPERTIES.

*Delivered at the Royal Institution,*

By Prof. Faraday, D.C.L. F.R.S. &c.

### Lecture VII.

*Zinc.—Colour—brittleness—malleability at high temperatures—combustibility—its use in the voltaic battery.—Voltaic pile. Grove's battery—its power in effecting chemical decompositions.—Voltaic action depends on chemical affinity.*

It has happened in almost every lecture of this course, that I have had occasion to refer to the chemical force which has been manifested in metals, in one way or the other. I have almost always had occasion to call attention to the force by which they manifest strong attraction, either as in iron for oxygen, from the air, or, as in the case of mercury, for chlorine.

The metal zinc is one in which this chemical force is developed in the very highest degree. Zinc is of a bluish *colour*. Its general appearance is of a pale blue, with a bright lustre when perfectly clean, easily destroyed on exposure to the atmosphere, ordinarily breaking with a brittle fracture, but, by a certain process, capable of being obtained in a perfectly flexible condition. It may surprise you when you see a piece that has been cast, and when you see how easily I can detach a part of it with a hammer, through its brittleness; for a slight shock from a small hammer is sufficient to break it, in its ordinary state; and it must also surprise you to see that we can afterwards bring it into a mass of the kind before me, which we can roll, bend, twist, and form into vessels such as we have here, and which will bear turning and laminating: we can, indeed, give it, at pleasure, either a brittle or a malleable state. There are two or three of the ores of zinc on the table. Here is the sulphuret of zinc of a black colour. Here is a specimen of the oxide of zinc; from which the pure metal is obtained by distillation. The mass is heated with charcoal, the metal distils, and is collected in a place where there is water, producing, during distillation, a transparent vapour, a perfect non-conductor of electricity, being like the air in that respect, but condensing into a conducting opaque metal again, and, when fused and cast, coming out in the form illustrated by this specimen.

I have here a little zinc fused, for the purpose of pointing out to you the curious condition, and showing you how we work with it, and what becomes of it when heated. I shall work a part for the purpose for which we use it. Perhaps you saw the large lump behind me, and the smoke which arose from its combustion. Immediately around it there has been formed a white woolly kind of substance, and if I take off the surface and expose the part beneath, the metal then takes fire and burns. If I pour it into water, you will see the mobility of this substance; it is now falling through air into the water, and forms grains of zinc, or granulated zinc, which we find of great use in the laboratory. If, instead of pouring it into water, I allowed it to congeal in a crucible or mould, and at a temperature of 270° or 280° I was to press it, or hammer it, or bend it, or do any thing to set the particles in motion, I should find that in place of breaking it with a hammer, (though at a still higher temperature, it really becomes brittle;) it remains *tough*, and the particles assume a condition which shews that the metal is flexible. Once bend it, it remains fixed; and we can either let it remain in this form, or draw it into wire; such is the curious condition in which it is placed with reference to the attraction of the particles one for another.

But I leave these general considerations, to come to the particular point for which we are to observe zinc to-day; and this is, the development of its chemical affinities. Let me first shew that the substance has those strong affinities that I have spoken of already. It can be preserved well in the atmosphere, and is used for roofs, or parts of buildings exposed to air and water; and although, but for the oxide formed on the surface, it would when oxidized by heat take fire, and burn more rapidly than wood, yet notwithstanding this combustible property it is preserved under common circumstances. Let me shew you an experiment to direct your attention to the manner in which we employ it in forming the voltaic pile. Zinc is a most important substance in the construction of that instrument which is now well known to the scientific world. Here is the metal, and I am going to demonstrate that it has properties in common with all other metals, and claims to be considered a combustible body. On bringing it in contact with the flame of a lamp, and putting a light to it, it is brought into the same state as the substance I here present (oxide of zinc). You observe by the change that has taken place from the intensity of the action, that a strong affinity exists between this metal and the oxygen of the air. If I take the oxide prepared on purpose, and in a free state, I can shew you a much stronger power of attraction between the bodies; and

as the experiments we are about to exhibit depend essentially upon chemical attraction, I am the more called upon by the circumstance to shew you the affinity between zinc and oxygen in various cases. Here I have the same kind of zinc-foil cut into long strips; I have a jar of pure oxygen, and I am about to light the zinc. You see that it is burning away, producing the substance that you saw before, from a combination with oxygen in a very intense degree. Here is the oxide of zinc produced.

But now, in order that I may carry you a step beyond what you have thus far seen, which has been merely the attraction of the two bodies one for another when in a free state, I must lead you little by little to observe the circumstances under which zinc can act; the oxygen with which I am going to combine it being already in combination with another body. I have here chlorate of potash, a salt which contains a large quantity of oxygen in combination; sulphuric acid is added to a mixture of the chlorate and powdered zinc, and violent combustion takes place, so strong is the attraction of this metal for oxygen, whether in a free or combined state. You find this body containing oxygen, (chlorate of potash) already decomposed by the zinc. Zinc can here burn not quite so well as when the oxygen is free, but it can burn when it is in combination with this substance; and this experiment shews its power of taking oxygen from a salt with which that element was previously combined. It is a singular development of that power in the voltaic pile which zinc is so eminently fitted to give by its affinity for oxygen, and without which the voltaic pile could not be conveniently formed,

There comes out here a curious point, in respect to the substance which is now being produced (oxide of zinc):—This metal forms but *one* oxide, and this is really a very important fact in the manufacture and employment of the voltaic pile. The chlorate of potash can give off a large supply of oxygen. If I burnt some metals with it, they would take much more oxygen than others. If I took aquafortis, which contains oxygen, and made it act on iron, it would give up the whole quantity of oxygen to the iron, and the iron would here be in a higher combination with oxygen: but zinc will only take one equivalent proportion. Although I may add aquafortis here in very large quantity, yet the quantity taken by the zinc is invariably the same, and is regulated by the affinity which zinc has for oxygen. The moment the acid and metal come together, all things are subverted for the production of oxide of zinc. In every case, whether the zinc take oxygen from the air or from pure oxygen, or from chlorate of potash or nitric acid, it never takes more than one proportion; there is one oxide of zinc, and no other; and upon this depends, in a great measure, the regularity and beauty of the instrument which, under the power of chemical affinity, we construct from zinc and compound bodies of this class—*i. e.* the voltaic pile.

Then there comes out another curious condition of this oxide, without which we could not construct a pile. This oxide of zinc is easily soluble in all acids. If I pour on it nitric acid, muriatic acid, or dilute sulphuric acid, in a short time the oxide will be entirely dissolved. Whatever course is pursued to form it, still the same oxide will be formed, and it will still equally dissolve in acids.

If I take a little zinc, and here is some prepared in the manner I shewed you, and put to it a little diluted sulphuric acid—a substance containing oxygen, but, not like aquafortis, able to give up oxygen from its own mass, the sulphuric acid remains unchanged; nevertheless there is action. If I place the zinc in this retort under a jar, you will see that action is going on in the retort—*i. e.* some gas is evolved. The diluted sulphuric acid, which can dissolve the oxide of zinc at once from the surface, can do that, and yet not be itself decomposed by the zinc, although action is going on.

An experiment will bring us to the nature of this change. It depends upon the action of the zinc with the water that I put in with the sulphuric acid. It will seem strange to you that pure zinc will not cause the change, and what is more important still, is this, that if I put in mercury I shall stop the process in the ordinary zinc. The moment I allow it to come in contact with the zinc so as to touch its surface, I shall have little or no action. The action has now ceased, the zinc is there, and so is the diluted sulphuric acid, but no gas is evolved. The amalgamated zinc now possesses properties precisely similar to those of pure zinc; and without going to the expense of pure zinc I am able to get the chemical action at pleasure, and show it in its most simple state. This new action of the metals on diluted sulphuric acid is peculiar to pure and amalgamated zinc. But as zinc is a volatile metal, and is procured by rough distillation in iron vessels, even a portion of iron passes over with it. The admixture of this and other impurities accounts for the action of the acid on common zinc. You will have, just now, an abundant production of gas on adding diluted sulphuric acid to commercial zinc; and if we cover the surface of this with mercury, the same inactive state is brought about. Here, on the other hand, we have the zinc alone with the diluted sulphuric acid, which shows that the metal, being pure, is not acted on by the acid.

Here are two vessels filled with the same sulphuric acid, and there are two large pieces of zinc in them, for the purpose of showing you their general condition. On observing it, you will notice a strange thing, as it will appear at first sight; a very curious action that takes place when I come to combine these bodies, in which resides all the power. I am going to add nothing to the power which is to be exerted by the arrangement. I am now speaking merely of the chemical affinities between zinc, diluted sulphuric acid, and water. If I put in pure zinc and water, and then drop into the retort—a substance which has no direct action on either body, but a secondary one—a piece of platinum, and leave it in contact with the zinc—you may perceive how roughly I am making the experiment—I shall get action, and that very soon. Already the fluid is descending, owing to the bubbles of gas which are collecting, issuing above, and they pass through the water, not from the zinc, but from the platinum in contact with it. I can show it better here. Here are two jars with pure zinc and acid, but at present there is no action. I have here a rough plate of platinum, still larger, to show the effect; and if I put it into either of these jars, and bring it into contact with the zinc, the moment I do so I shall have action, and you will see the difference between the two jars. The gas is now rising up, and making the upper surface of the water quite troubled: action is going on in various places. In this jar the gas is not coming from the zinc, but is being evolved from the surface of the platinum, which receives power, and it will fill the jar with hydrogen, the same as that which comes from the impure zinc. It is from the platinum, and not from the zinc, that the gas appears to be evolved; but it is from the zinc, and not from the platinum, that that force is derived which causes this remarkable action.

Here I must beg your attention to a curious condition which results from this force in metals, the transmission of particles, so minute that you have no idea of the smallness of their size, to other particles of matter, so that they are able to give out voltaic power to be transferred to a considerable distance. There is nothing more wonderful in any part of chemical philosophy, than the transfer of the singular power derived from particles themselves through a wire to almost any distance.

This is a remarkable circumstance, although we are familiar with it. It cannot be that the more we know of any of the truths of nature, the less wonderful they should appear; since, in fact, from day to day we find new things about them, not only increasing the admiration which belongs to the first part of our knowledge, but adding new knowledge to instruct us at every step. Here are two pieces of metal in conjunction, although I have put platinum and zinc in association by accident; I have yet paid no attention to the place where they touch each other. Let me do so for a moment, and then every part will give proof of this wonderful circulation of power, which belongs only to zinc and copper wire in conjunction. I have here a piece of zinc, like one of these plates, and a piece of copper; it is not so good a metal as platinum for this purpose, but it is cheaper; and instead of putting them in contact, I have left them apart, but united by wire, and I can at any time bring them into contact. If I had kept the two plates apart, and connected them by a good conducting substance, then action would have gone on. But I call your attention to what takes place here, having only wood between the zinc and the copper, and wood is a bad conductor, but by this wire I can put the metals in metallic contact; I can put them in the condition of being able to take on action. See what takes place: you have abundant proof that we are producing a circulating power. If I keep them apart, nothing happens to the wire; if I join them, see what occurs. At first, they are inert; if I place them in contact the thin connecting wire becomes red hot. To this capability of conveying power to any distance I am bound to call your especial attention.

You must not suppose that the simple manner in which we endeavour to exhibit the principles belonging to our science, and to lay them before you, is just the course under which we obtain our knowledge. Far otherwise: it is by the pursuits of many men of enlarged minds, labouring for many years, and by the addition of light to light, that we obtain this knowledge. It is not my place to call you back to the successive discoveries which have led to important results, but to give you at once the knowledge derived from the labours of men who have lived in times past, and therefore I must show you as clearly as I can, and as quickly as I can, how the voltaic pile is now formed, and the means by which we bring out its wonderful properties.

Here is really the *voltaic pile* itself; for knowing the principles on which the action takes place, we now come to that subject. If we look at one element, it is in fact the type of all. It is zinc, and copper or platinum. This is all that is necessary to the accumulation of the power you have seen, and we can give to it a direction, and increase its energy in certain ways; we have thence greater power following, as well as a ready means of controlling and directing it to what quarter we please, simply by our knowledge of the properties of the metals

which are concerned in forming the arrangement. Having these duplicatures, combined pairs of zinc and copper, all that is required to make this an active voltaic pile is to put between each pair a little slip of paper soaked in diluted acid. I am piling up three sets of plates, zinc, copper, acid—zinc, copper, and acid—always in the same order, repeating again the same effect; and with every addition of acid in the paper I am multiplying the action on the zinc; and the zinc under these circumstances will tend to drive this power forward in one direction. Now I have what we call a voltaic pile, and first of all, let me see whether we have heating power; to ascertain which, I have here a piece of platinum wire. On joining it to the two ends of the pile, I find the wire is hot to my fingers, but not visibly hot: this shows you the progression of voltaic action: the time we are taking is the time required for the acid to act on and dissolve the zinc. I am not waiting to show you a large power, but a mere accumulation of power. Let us see whether we have any chemical action here capable of being communicated to a distance. I find by experiments that I have a little. We are able through this kind of arrangement, in a small degree, to convey powers the same as those exerted by the chemical force of oxygen for zinc on a large scale.

If, instead of using a few clumsy plates like these, the first invention of Volta, we take advantage of many discoveries made since his time, and come to the last, and what I think the best arrangement, that of Mr. Grove, then I bring you to a combination of zinc and platinum as the metals which ought to be used. The zinc is always the source of power. By connecting plates of amalgamated zinc immersed in diluted sulphuric acid, with slips of platinum immersed in strong nitric acid contained in porous vessels, we are able to exalt the energy of the battery to the highest degree; and thus we have in Grove's battery an apparatus which exceeds all others in power and utility. We have in this tray a battery of 23 plates, which rivals what we used to make in former days with 400 or 500 plates, and which used almost to stifle us by the fumes of acid evolved. This is the advantage we have over those who have gone before us, that we profit from their exertions and their wisdom. Here is the arrangement: here are wires, and here are terminals, which is the place where we are to look for the power of the instrument we have made. I believe I have merely shown you what you have often seen; I cannot think that I am saying anything new to any of you; but it will be satisfactory to myself if I can only again demonstrate to you the surprising effects of a power which we can call into action from day to day far more easily than was formerly the case.

This, then, is the *Voltaic pile*, and remember when looking at it that you are to think of the simple chemical affinity of zinc for oxygen; unless you do this its mode of action will not be intelligible. Whether it be power of one kind or of another, whether it be chemical phenomena, or the phenomena of heat, or magnetic phenomena, you have the same direct and necessary result of the simple chemical affinity which is working behind me—the attraction of zinc for oxygen. Contact is here made, and there is a complete circuit, or circle, through which the voltaic power resulting from chemical action will now run. When I say will run, I use words that I hardly mean; but we are obliged to use words of common use for things that we understand, in order to represent things that we do not understand. Whether this flow of voltaic fluid be due to vibration or not, I cannot say; all I can do is, to give the facts and the laws that govern this power, and we will leave it to others to explain the precise molecular action. There is no end to the theories for the explanation of electrical phenomena, but there is a simple law which governs them all; it is the law of nature that acts, and you see a power behind me able to produce the beautiful display now presented, a power rivalling the centre of all power—the sun, in the intensity of light here produced on charcoal points. Although the current is the same in the two separate wires as before, no effect is produced until I complete the circuit, or unite the series of conducting matter, *i. e.* until the conditions are fulfilled by which this power will be enabled to circulate. The power is in a state of excessive tension, accumulating in the wires: it is about to do its work and produce its wonders, but there is no result until I bring the parts in contact. My late friend, Professor Daniell, first arranged a pile that should be constant in its action. The brilliant light that you now see has nothing to do with the atmosphere, for nothing is consumed or destroyed; it is equally produced in vacuo. The intensity is so great that I am almost blinded by the light here evolved.

When we look at the influence which the metal zinc thus brings out, we find effects utterly beyond those which are merely chemical. I have here made a bridge of wire between the two terminal poles, and I am now able to show you a power more intense than that which you saw a little while ago. When I make contact, I get heat; the action is going on behind; the smallest interval, *i. e.* want of contact, stops it; but when the parts come in contact, I obtain at once a beautifully ignited wire of considerable length.

Different metals are affected in the same manner, but not in the same degree. Here we may obtain chemical effects, and we shall get them in two ways. It is necessary to distinguish these carefully, or you will not properly apply the power of the voltaic pile in the production of the phenomena to which we can give rise, be it the power of zinc or not. Here is a piece of iron wire with which I am going to make a bridge between the poles. It becomes red hot, takes fire, burns, and is destroyed. If I take a smaller piece, that also will take fire, and burn freely. This is a case of the simple combustion, or oxidation of a metal, and the effect of chemical affinity. It is beautiful, and well deserving of attention; it is not the true action of the pile, which I will almost immediately show you, but a chemical effect superadded to it—the experiment having been performed in the air. This power can be brought out in many ways. If I put a piece of any metal between the two terminals of this apparatus, I can, by the voltaic heat, burn it, and this is the indirect effect of heat produced by the voltaic current. Here is silver; it burns beautifully with an emerald green light. Here is a piece of iron, and in all these cases we have the phenomena of combustion, each metal exhibiting its own special characters. I might go on for a long while showing you these phenomena, if our time permitted.

Let me again call your attention to the chemical affinities which are here exhibited, and which are exceedingly curious. We have here an arrangement for an experiment which will serve for many purposes, and by it you will see brought out at a distant spot chemical changes like those which are occurring in the cells of the pile itself. Here we have a portion of fluid in a compound state (sulphate of soda), like that in the cells of the pile. I have coloured it blue, to make visible certain constituents which I have put in combination, viz., diluted acid and alkali. I purpose to make the three vessels before me one, as well as I can, by putting a little portion of moistened cotton to serve as a bridge to hold the fluid, and connect the three together. The reason why I do this is, that I wish to keep the two extreme vessels of the apparatus apart from the middle vessel. If I place in the end vessels two plates of platina, and bring these plates in connexion with the voltaic pile, the moment it is done action will take place: and so soon as that occurs a change will go on in the liquid contained in these vessels, although it will not be a very visible one, because of the quantity of non-conducting space that intervenes between one and the other. I shall have the liquid in the vessel at one end gradually becoming red, and in the other green, in consequence of the decomposition of the salt and separation of acid and alkali, and their accumulation at the opposite ends of the apparatus. You see that the one end is changing while the middle retains its original blue colour; the end of the right is reddish, the end of the left green; the middle remains unchanged. I give this as a parallel case to what is taking place in the battery and communicated through the wires.

See how two important facts come out: these masses of matter had no action alone, but by contact they acquire great action, and generate an extraordinary power. This pole attracts the acid from the salt and makes the solution red, while the other piece of platinum attracts the alkali and makes the solution green; in the middle vessel, there being a balance of power, the liquid remains blue. There is no machine that we can compare with the voltaic apparatus, which can show these strange and wonderful results. I could show you these effects in a thousand instances. There is no end to the variety of results obtained by voltaic action, although the principles brought into operation are the same in every case.

Observe what will happen if we try another experiment. Here is a plate of platinum, and here is another substance, the iodide of potassium, and here are two platinum plates connected with the poles. These plates have no power separately upon the substance itself, there is no action produced by the contact of platina with the salt; but look at the effects of the two terminal plates on paper saturated with the iodide (the iodine was separated by one); here you see the action one way, that you saw before in another. So, if I carry the platinum pole over the surface, you may see the action brought out as I travel. As I move the platinum pole along over the iodide I destroy the chemical affinity, and a brown stain of iodine is brought out; this element being separated from the potassium, not by a power possessed by the platinum, but by that power which it derives from the chemical action going on in the zinc. The power can in this way travel to any distance.

There is a coloured solution (sulphate of indigo with hydrochloric acid) placed yonder (ten feet high, at some distance), which will illustrate this principle in another way. I have laid on a wire, which will enable the voltaic current to travel: if I now apply the other wire to complete the circuit the blue colour will be destroyed by the chlorine separated through voltaic influence from its combination. You may thus see by what is going on how beautifully this chemical

power, indicated by change, is made to act at a considerable distance.

I must here close all I have to say on the current produced by the voltaic pile. It is not so much the voltaic pile itself to which I wish to call your attention, as the principles upon which we can make the current circulate. I may adduce one more proof that it is really and truly chemical affinity which is the cause of its production. Here is a piece of iron, and in preparing the experiment I should tell you that all the metals have more or less power of exciting voltaic action; it is not zinc alone that produces the effect. Iron does it in a peculiar manner, and I wish to set you free from difficulty as to how chemical affinity produces it. Iron does not act chemically on nitric acid when this is in a concentrated state, and nitric acid does not act chemically on iron. I have put in a glass some strong nitric acid; if I put in zinc and platinum, I shall have a strong chemical action, but the zinc would have acted on the acid quickly enough. Here is an apparatus, called a galvanometer, which indicates the presence of a current, and is able to show the power that exists. Let me bring the two poles of the apparatus together. Here are the iron and platinum pole in contact with the wire leading to the indicator, and a magnetic needle suspended within a coil of wire. This will move right or left, supposing that a current should pass through the whole arrangement. The nitric acid does not act on the iron, if it be too strong, but it will act by the addition of water. As that is the most convenient mode we have just now, I will pour a little water into the vessel containing the acid to show that when chemical action between the diluted acid and the metal begins, it will be immediately made evident by the motion of the magnetic needle; that is to say, the current action, or the voltaic power, will be transmitted through the coil of wire. If I add more water, I can stop it, because I may dilute the acid so much as to diminish chemical action and put a stop to the current. I have now stopped the action, and I have no doubt that the needle will go back, and so long as the action remains dormant, it will come to a state of rest, leaving it at the neutral point. I will now bring it again into action by adding more acid. I have done so; it moves to one side, showing how chemical affinity is here the sole cause of deflection. If I used sulphuric acid and zinc I should have the same proof that while chemical affinity was going on between them, the current was taking place.

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## Original Communications.

### ACCOUNT OF A CASE OF DISSECTING ANEURISM OF THE AORTA.

By Theophilus Thompson, M.D.F.R.S.
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The details of the symptoms observed during life, and the appearances discovered after death, in a case of "dissecting aneurism of the aorta," exhibiting some remarkable peculiarities, may not be uninteresting as a contribution to the history of a rare disease, to which the above appellation has been given, in conformity to professional usage, although its propriety may be fairly questioned.

On Tuesday evening, January 7th, 1845, I was requested to visit a gentleman forty-five years of age, of highly nervous temperament, and literary but active habits, who had been suffering all day from severe pain of the abdomen, attended with severe bilious vomiting. It was not increased by full inspiration, and was rather relieved by pressure. He could extend the legs fully without uneasiness, and found nothing relieve him so much as walking. The most probable cause to which the attack could be attributed was some Scotch bun, which he had recently taken. He had always enjoyed an average share of health, with the exception of occasional attacks of rheumatism in particular parts, during one of which affecting the deltoid muscle, he consulted me about eighteen months since. That attack was not attended with any affection of the heart, nor had he ever complained of palpitation, although it had been his constant practice to run up stairs rapidly. On the present occasion there were no indications of disease of the heart, except that the sounds of that organ were perhaps rather duller than natural. He exclaimed vehemently and with much alarm respecting the violence of the pain; but this circumstance was the less regarded inasmuch as he had been always prone to attach great importance to any symptom of indisposition. The pulse was 80, and regular; the tongue white; he was directed to have fomentations to the

abdomen, to take immediately a small dose of Calomel with extract of Henbane, and the compound Rhubarb pill; after a few hours, a draught containing Rhubarb, Magnesia, and Tincture of Ginger, and a similar draught the next morning, with the addition of some Sulphate of Magnesia, unless the bowels should have been previously relieved.

At nine in the morning the pain was still severe, but the patient had twice slept for half an hour during the night; had enjoyed considerable relief for an hour after taking the first draught, and had passed one evacuation containing hard scybala.

Pressure and friction on the abdomen moderated the pain; the pulse was rather quick and sharp. I prescribed a pill containing four grains of Calomel, and one of Opium, to be taken immediately, and a domestic enema with half an ounce of common salt. The enema acted thrice, discharging each time hard scybala. A quarter of an hour after the last evacuation, which was attended with some effort, he got out of bed, and was heard to fall. His friends finding him in an alarming state of syncope sent for me. I arrived about one o'clock, an hour after the fall, and found him apparently insensible, with pallid countenance and cold extremities, but able to swallow. Brandy had been administered, but the pulse was imperceptible at the wrist, and could neither be felt or heard in the cardiac region. Brandy and water were poured into his mouth as rapidly as he could be got to swallow it. Some mental excitement shortly exhibited itself, and he called out for some friends who had been long deceased. In half an hour the pulse became perceptible, beating about fifteen strokes in the minute. The lids of the right eye were closed, those of the left half open; both pupils were contracted and insensible to light.

Dr. Roget, whose assistance I was so fortunate as to obtain under these critical circumstances, agreed with me in the importance of a resolute perseverance in the administration of brandy. Draughts of Carbonate of Ammonia and Aromatic Confection were also prescribed, and a blister to the back of the neck. At four o'clock, the pulse, which had again become for a time imperceptible, could be distinguished, and was rather less slow. At 7 P. M. it was more feeble, and apparently about 100.

Linen dipped in Spirit of Turpentine was applied to the cardiac region, and a draught containing Æther, Tincture of Cantharides, and Aromatic Confection, ordered to be taken every three hours.

At 11 o'clock the cheeks were perspiring, but cold, and the pupils slightly sensible to the light. The patient appeared to understand questions addressed to him, and replied in monosyllables, but could not select the words which he wished to use. He made an effort to protrude the tongue when desired to do so, and when asked whether he was in pain, answered "No." His pulse was 100, and regular, but feeble; his tongue brown. On listening to the chest a mucous rhonchus was extensively audible; in the left side some sonorous rhonchus was perceptible, and the sounds of the heart could be heard even in the back. We directed him to continue the draught, omitting the Tincture of Cantharides, to take milk with lime-water, and to substitute wine as a stimulant instead of brandy.

At 4 P. M. notwithstanding our caution against his assuming the erect posture, he obstinately resolved to get out of bed, which he accomplished with very little assistance, and the bowels were freely relieved. In the evening he was drowsy, his face and extremities of natural warmth, and perspiring freely; the arterial pulsation was distinct, and that in the left temple was visible to the eye.

Jan. 10th.—At 8 A. M. he was on the sofa (to which he had walked with little assistance), complaining much of chilliness of the feet, with an expression of countenance peculiarly anxious, and combining the wildness and weakness of exhaustion. Pulse scarcely perceptible; mucous rhonchus could again be heard in the chest. Two evacuations had taken place since yesterday afternoon, the last containing a little blood. No urine had passed since the attack on Wednesday. We directed the brandy to be again administered, and the stimulating draughts to be continued.

No very material alteration occurred during the day; but Dr. Roget, who

saw the patient in the afternoon, during my absence from town, found him presenting still more the appearance of a person sinking under some internal hæmorrhage; and in the evening we detected a decided extension of dulness on percussion in the cardiac region, indicating effusion, most probably of blood; but we were unable to discover why its occurrence had been postponed so long after the first attack of syncope. About eight in the evening he was much excited, and made some violent muscular efforts; and at nine, after one or two gasps, suddenly expired.

An examination of the body was made 24 hours after death, with the able assistance of Mr. Paget, of St. Bartholomew's Hospital.

On opening the chest, our attention was directed to the distended state of the pericardium, which contained about six ounces of blood, part of which was fluid, but a portion formed a layer of coagulum, enclosing the heart. A considerable projection of the cellular sheath of the aorta compressed the left pulmonary artery in the first inch of its course, and gave its aperture the appearance of a narrow chink. The coronary arteries were dilated and rigid, more especially the right one, which, about an inch from its origin, was about six-tenths (·65) of an inch in circumference. This rigidity was owing to atheromatous deposit, which, on tracing the artery from its commencement, became more and more conspicuous. The enlargement about the aorta was found to have been occasioned by the escape of blood into the cellular envelope of that vessel. There was no rent of the part adjoining the pericardium, but judging from the situation of the principal ecchymosis and discolouration, it was sufficiently evident that the blood had escaped into the pericardium, between the pulmonary artery and the appendix of the left auricle.

On cutting into the aorta, a rent about eight-tenths (·85) of an inch in extent was observable, passing through the internal and part of the middle coat of that vessel, half an inch above the free border of its posterior valve, at first nearly perpendicular to the valve, then for about three lines diverging to the left side so as to assume a form resembling that of the clavicle.

The lining membrane of the aorta was easily lacerable, and in many parts, especially near the arch, studded and tuberculated with atheromatous deposit; but there was no deposition or ulceration near the rupture. The edges of the laceration were ragged; and when separated disclosed coagulated blood, included between the layers of the middle coat of the artery, the transverse fibres of which were readily distinguishable. This separation of the laminæ existed entirely around the aorta, at its commencement, and extending upwards surrounded one half of the arch behind the arterial trunks, afterwards nearly encompassing the vessel, excepting at the origin of the intercostal arteries, the inner and middle coats of some of which had indeed been entirely torn from their attachment to those of the aorta by the force of the intruding current of blood. The same current, proceeding by the outer and anterior side of the arteria innominata, encircled two-thirds of the right carotid artery as far as within an inch of its division into the external and internal branches. A similar separation extended along the posterior and left walls of the whole thoracic aorta, between the layers of the middle coat,* and the effused blood could be traced downwards between the corresponding layers of the posterior wall of the vessel in its abdominal portion as far as the origin of the renal arteries.

The heart was considerably enlarged and thickened, chiefly in consequence of hypertrophy of the left ventricle, the wall of which, on a level with the free margin of the aortic valves, was eight-tenths of an inch, and at the distance of an inch from the apex, two-tenths (·23) of an inch in thickness; but its substance was deficient in firmness and colour, having the appearance of a weakened muscle. The valves of the heart and aorta were healthy, those of the pulmonary artery delicate and cribriform.

There was no special or partial dilatation of the aorta; but this vessel was of considerable calibre, its circumference above the rupture measuring exactly four inches, whilst that of the pulmonary artery, near the valves, was only three inches and two tenths.

The abdominal viscera were healthy, with the exception of the kidneys, which presented in their substance a

* The preparation is in the museum of St. Bartholomew's Hospital.

few indistinct granulations, and on their surface some cicatrices, as though from former scrofulous disease.

The bladder contained about ʒvi. of urine, which became opaque on boiling.

Among the peculiarities of the case now related, it is worthy of remark that the aorta was free from ulceration or special dilatation, and that no morbid deposit existed near the place of rupture; the liability to laceration having apparently resulted from the imperfectly nourished condition of the inner membrane, in part perhaps attributable to the diseased condition of the coronary arteries by which this membrane is supplied with blood. It seems probable that the excitement, alarm, and exertion, which attended the attack of colic, had induced the increased action of the hypertrophied heart, which was the immediate cause of the yielding of the aorta.

In tracing the progress of the case it would appear that the circulating system in some degree rallied from the original shock, but that the heart was eventually overpowered by the accumulation on its surface of the blood which oozed into the pericardium.

It is interesting to notice the partial restoration of the intellectual faculties which accompanied the improved circulation, and not unreasonable to imagine that the different circulation in the temporal arteries and the diversity of power in the eyelids, might be attributed to the greater extension of effused blood in the direction of the right carotid artery; whilst the interrupted action of the kidneys might possibly be referred to the obstruction of the circulation from a similar cause in the renal arteries.

Evidences, similar to those presented in the case now described, of some severe sudden shock to the heart, embarrassing the circulation, and yet not in a proportional degree impairing muscular power, might be adequate to excite suspicion of the real nature of the injury.

In this particular instance, although without the details of any such example for our guide, they were sufficient to induce us to repress the too sanguine expectations of the friends, during partial amendment, and indeed to suspect the gradual exudation of blood into the pericardium, from the rupture of some internal vessel.

3, Bedford Square,
March 4, 1846.

CASES AND OBSERVATIONS
ON THE
# TREATMENT OF APOPLECTIC AND PARALYTIC DISEASES.

By Edward Copeman, F.R.C.S.

[Continued from p. 460.]

Case III. — John Tooke, æt. 58 years, a farmer and machine-owner, of good general health. In February, 1842, he was thrown out of his cart, and fractured the neck of the *right* thigh-bone; from which accident he recovered so as to walk with but little lameness. On the 19th January, 1845, was taken ill with symptoms of hemiplegia; pain in the head; furred tongue; skin yellowish; pulse good; tingling sensation in the *left* arm and leg.

Empl. Lyttæ Nuchæ. A calomel powder followed by senna draught.

10th.—No alteration in the symptoms.

Contr. Med. Purg.

11th. — Complains to-day of more numbness in the left side; rather less pain in the head; pulse good; skin warm; frequently feels faint.

Hydr. c. Cretâ, gr. iij. o. n. s. ℞ Sp. Am. c. ʒij.; Inf. Sennæ, ʒj.; Inf. Gent. c. ʒiij.; Aq. ʒiv. M. Cochl. larg. ij. t. d. s.

13th.—Somewhat better to-day, but bowels sluggish.

Contr. Med.

15th.—Fresh attack of loss of sensation in left side; has scarcely any feeling on that side, but can move the limbs; very little headache; tongue cleaner, and appetite returning; pulse not weak, but he appears feeble and cannot stand alone; bowels not open.

Empl. Lyttæ parv. pone sing. aures. ℞ Magnes. Sulph. ʒss.; Aq. Cinnam. ʒvij.; Tr. Card. c. ʒj.; M. Coch. larg. ij. t. d.

16th.—Scarcely any sensation in the left side; intellects good; no other alteration.

Mustard poultice to the leg.

17th.—Much the same; took castor oil yesterday, but the bowels not sufficiently open; pulse good.

℞ Inf. Gent. c. ʒiij.; Inf. Sennæ, ʒj.; Dec. Aloes c. ʒij. M. Cochl. larg. ij. t. d. s.

18th.—Bowels well relieved; left side

quite useless, but the power of moving the limbs not lost, although lessened.

Ordered an issue in the arm, a blister to the nape of the neck, and the limb to be rubbed with the following liniment. ℞ Ol. Oliv. ʒj.; Lin. Camph. c. ʒss.; Lin. Sapon. c. ʒx.; Tr. Lyttæ, ʒij. M. ft. Liniment.

19th.—Was taken very faint this morning; bowels not open.

Enema purgans. ℞ Sp. Am. c. ʒiij.; Sp. Lav. c. ʒij.; Mist. Camph. ʒviiss. M. Cochl. larg. ij. 4tis horis. Brandy and water occasionally.

20th.—Has some return of sensation in the limbs to-day, and complained of my hand being cold when I touched the arm; pulse 72; tongue clean; leg painful where the mustard had been applied.

Contr. Remed.

21st.—Complains much of his leg where the mustard has inflamed it, and cannot bear me to tickle his foot.

Pulv. purgans. Goulard lotion to the leg.

22d.—Has had no relief from the bowels for three days. Took jalap powder last night, and senna draught this morning without effect. Ordered castor oil. Is quite sensible, and has more feeling in the left side; complaining both of the issue, and of the leg, which is very sore and irritable. Is at times faint, and generally, when not disturbed, somewhat heavy and dull.

23d.—Castor oil acted but slightly.

To repeat the dose, followed by an enema.

25th.—Bowels not yet acting satisfactorily; abdomen distended with flatus; he is rather deaf and lethargic, but has more sensation in the affected limbs; his speech is somewhat indistinct, but tongue not drawn to one side. In the evening the bowels acted very plentifully.

26th.—Abdomen less distended; leg improved, but still raw and painful; pulse 70; tongue clean; takes brandy and water when faint; is languid, and not much inclined to be disturbed.

℞ Sp. Am. c. ʒss.; Mist. Camph. ʒvij.; Tr. Cascar. ʒj.; Tr. Sennæ, ʒss. M. Cochl. larg. ij. t. d.

29th.—General health improved; moves his leg and arm quite well, and has almost natural degree of sensation; ulcer on the leg healing; eschar separating from the arm; is less drowsy; pulse good; bowels open.

Contr. Mist.

Feb. 1st.—Quite well in health, and the limb in a better state.

Contr. Mist.

14th.—Has been sitting up for the last three days for some hours in an easy chair. Occasionally suffers from vertigo, and then applies a small blister somewhere about the head. Moves the affected limbs well, but requires more perfect sensation to guide them for useful purposes. In a few weeks he was sufficiently recovered to walk with a stick, his general health remaining good, and there having been no return of paralysis.

January, 1846.—Up to the present time Tooke has had no return of paralysis, and his health has been upon the whole very good. Occasionally he has felt depressed, and required a little tonic medicine, which has quickly relieved him. He walks about alone, and sometimes takes long drives in his pony cart after business. In walking, there is an unsteadiness in his gait, due chiefly no doubt to some remaining defect in the supply of nervous influence to the affected limbs, but partly also to imperfect union of the opposite fractured neck of the thigh-bone. He is more inactive than before his attack, and looks older, but is in a very tolerable state of health.

Remarks.—This case of paralysis of sensation, or *anæsthesia*, was in its commencement puzzling, and I had frequent doubts whether I ought not to have acceded to the request of his friends to bleed him. His pulse was of fair strength, his general health had been good, and for several days the symptoms kept increasing—sufficient reasons, many would say, for trying the effect of loss of blood; but there were at the same time signs of weakness and depression of the nervous system which I was afraid to run the risk of increasing; and I determined to be guided by the opinion I had previously formed, that bleeding in such cases was not, except under very peculiar circumstances, admissible. I therefore directed my attention, *not to the strength of circulation*, but to the *debility of the nervous system*, which seemed the more important enemy to contend with. For

ten days I carefully watched the symptoms, without having recourse to any very active treatment, and found my suspicion of the tendency of the disease being atonic, correct. Then I ordered brandy and water, and ammonia; and on the following day he had more sensation in his limbs. This encouraged me to persevere with the tonic plan; and the result surely proves that it was better to raise the tone of the nervous system by stimulants, than to weaken the body by abstraction of blood. Here, as in many other cases of affections of the head, the pulse was not an index of the power of the body generally, nor a sufficient guide to the proper method of treatment.

Case IV.—Early on the morning of April 30th, 1845, I was sent for to visit a patient under the following circumstances: — J. Holsworth, æt. 65, a bricklayer, had left home about 5 o'clock, A.M. to go to work, and was suddenly deprived of the power of speech, with loss of power on the right side. He is a very fat, florid man, and has several times been attacked with pain in the head and stupor, which have been removed by venæsection and purgatives. I saw him about 8 A. M. He was quite hemiplegic on the right side; could not articulate a single word, and complained much of his throat by signs; no pain in the head; had not been drinking the day before, as had been the case before his last illness, in 1841; but had been subjected to disappointment in reference to some building job, and thought he had been ill used in the matter. He could scarcely put his tongue out to be seen; he had been chilly, but was now warm, and his pulse was exceedingly strong and resisting. I drew blood to the extent of reducing his pulse to a natural standard, which was not effected until a pound and three quarters had been taken; the blood was very thick and tenacious; no change of symptoms followed; he was sensible, but could not utter a word.

3 grs. of calomel directly; blister to the nucha. ℞ Magn. Sulph. ʒss.; Inf. Sennæ, ʒiij.; Mist. Camph. ʒiij.; Tr. Card. c. ʒiij. M. Cochl. larg. ij. t. d. Friction to the limbs.

May 1st.—Bowels have acted well; pulse natural; can just move the toes and fingers; articulation a little improved.

Contr. Mist. Mild diet.

2d.—Speaks better, and can move the right arm.

Contr. Mist.

3d.—Has been able to walk a few yards with the help of a stick, and speaks much better.

Contr. Med.

5th.—On visiting him to-day, was surprised to find him engaged in cutting with a table-knife a piece of wood used in plastering, the knife being in the hand which five days ago was completely paralysed; walked in his garden several times yesterday with no other assistance than a stick; leg not so much recovered as the arm; speaks well; blister healing; pulse good; bowels active.

Contr. Med. et applic. Empl. Lyttæ ad Humer.

10th.—He is now so well that he needs no further attendance.

Remarks. — This patient was in every sense plethoric, and his pulse was of that peculiar character, easily recognised by the practised finger, which points out the prudence, if not the absolute necessity, of bleeding in almost any disease in which it presents itself. It was *essentially* strong, resisting the finger, not by sudden quick jerks, but by a power which would imply an inordinate degree of tonicity in the heart and arteries. There is as much difference, if I may be allowed a strange comparison, between this kind of pulse, and the strong pulse of inflammation or temporary excitement, as between the steady powerful movements of a dray horse, and the quick, and for a while perhaps as powerful movements of the racer; the former are prolonged without exhaustion, the latter subject to depression when excitement is over. From this case we may learn a lesson concerning blood-letting which cannot be otherwise than useful in respect to the diseases to which these observations refer; viz. that even under circumstances apparently the most indicative of the propriety of blood-letting, the desired end may be obtained without reducing the circulation below the healthy standard: I went no further than this, the pulse being of good strength when I stopped the flow of blood. From the reputation which

bleeding enjoys as a chief means of curing such cases as the above, it would have been reasonable to expect *some* relief to have been afforded by the quantity removed; but no alteration took place in the symptoms. There was, therefore, no *evident* inducement to carry it further than to obtain that general relief to the system which such a condition of plethora would seem to demand. The first decided amendment in the paralytic symptoms followed the action of the purgatives; and the patient's speedy recovery shews plainly that further bleeding, although it might possibly have been borne without injury, was not *necessary* for the cure of the disease.

[To be continued.]

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FURTHER OBSERVATIONS

## ON SILICEOUS GRAVEL.

By Robert Venables, M.B. &c.

Some years since, I published, in the Royal Institution Journal, the history of a case in which a siliceous deposit was passed and appeared in the urine. Had this case stood alone and unsupported, the possibility of silicic acid as a urinary deposit would have remained more than questionable. But while my paper was passing through the press, Dr. Yelloly, who was engaged in the analysis of the Norwich collection of calculi, called upon Dr. Faraday and Mr. Brande, to consult them upon the nature of a refractory material, which he found forming the nucleus of an oxalate of lime calculus in that splendid collection. Dr. Yelloly laid before the Royal Society an account of his researches upon this interesting subject.

The instances in which silex has been detected either as a urinary deposit, or as forming a part of urinary calculi, are indeed but very few. Fourcroy and Vauquelin found it in two only, out of six hundred calculi which they examined, and Wurzer mentions an instance in which silex constituted one per cent. of a calculus weighing eight hundred and seventy grains.

I know of no observers in this country who mention silex as a urinary deposit, with the exception of Dr. Yelloly, and it seems extraordinary that this substance has not presented itself to any of the very able and accurate observers who have diligently devoted themselves to urinary pathology and diagnosis. It is not therefore till after the strictest and closest investigation, that I venture to submit the following.

The subject is a gentleman, himself a member of the profession, about the middle period of life, and who has suffered from occasional attacks of gout. He lately requested me to state what was the composition of a small piece of gravel extracted from the urethra by incision. He gave the following history of himself:—

Subject to attacks of gout; and uric acid separates occasionally from the urine. Some time since suffered very severely from pain of the loins, about the region of the kidneys, and ultimately was relieved after the passage of a small uric acid concretion. Lately experienced the same symptoms, and believing that they arose from a similar cause, applied to two or three professional friends, who, having sounded the bladder, could discover no trace of the existence of a calculus, nor any grounds upon which to apprehend any such result as the formation of one. Notwithstanding, however, the pains continued, and became even more aggravated; nor could they be assuaged by the remedies which he took. At length a difficulty in voiding the urine set in, and one day he found he could not pass the urine in consequence of mechanical obstruction; in fact, the passage was blocked up by a solid substance of which he was sensible. He immediately applied to one of his friends, a surgeon, who having tried in vain to draw it out through the natural opening, extracted it by making an incision into the urethra.

Upon inspection I found it to possess a very extraordinary figure, being extremely rough, which probably prevented its extraction by the forceps. In colour and other respects it resembled uric acid, and I had determined to verify this view by dissolving in caustic potass, precipitating by hydrochloric acid, and examining the crystals under the microscope. When the portion obtained by mere scraping with the point of a penknife was treated with solution of caustic potass, on decanting an insoluble residue remained. The solution precipitated by hydro-

chloric acid let fall a scanty collection of uric acid crystals in rhombs and prisms. The insoluble portion, partially dissolved in hydrochloric acid, still left a very minute residue. The solution in hydrochloric acid was attended with a very slight degree of effervescence, indicating the presence of a minute quantity of earthy carbonate. To the hydrochloric solution diluted oxalate of ammonia was added, which produced a manifest haziness, which on the addition of caustic ammonia became a comparatively bulky precipitate. This precipitate proved to be oxalate of lime and of magnesia, and was readily converted into carbonate, and subsequently caustic lime, &c. by the blow-pipe flame. Hence it is evident that the residue insoluble in caustic potass, but soluble in hydrochloric acid, consisted of earthy phosphate, with a minute quantity of carbon .te.

It is, however, to the minute particle which escaped, or rather resisted, the action of caustic potass and hydrochloric acid, that I wish more particularly to direct attention. I at first thought it might possibly be a small fragment of uric acid, which, through the enveloping agency of the earthy matter, had escaped the solvent power of the potass. I therefore transferred it to a capsule, and heated it with *nitric* acid, but found that it equally resisted this re-agent; which induced me to suspect that it might turn out to be *silex*. To verify this conclusion, the following plan was adopted :—

I made a slight impression upon a glass slide; it resisted the heat of the blow-pipe, undergoing no change whatever; but when a very small proportion of soda was added, and heat applied, it fused, forming a sort of semi-opaque permanent bead. Upon increasing the quantity of alkali, as by the addition of some carbonate of potass, and heating, it fused into a mass which was deliquescent, and dissolved in water. From this solution, hydrochloric acid threw down a gelatinous-looking mass of silica, the bulk of which was increased by evaporating to dryness; and I afterwards removed the chlorides of potassium and sodium by washing with warm distilled water. There remained two or three minute granules, of a whitish appearance, which, when contrasted under the microscope with granules of silica, prepared from flint-glass by Faraday's process, so closely resembled these as not to be distinguished. Hence there can be no question that the silex, in this case, as in Dr. Yelloly's, must have been of urinary origin.

In Fourcroy and Vauquelin's case the silex was, as in Dr. Yelloly's, blended with oxalate of lime. In the instance just noticed, the earthy salts seemed the more predominant; but upon this I must observe, that the quantity spared to me for examination was so very minute that it might be looked upon as a *microscopical* specimen, rather than one intended for chemical analysis.*

It would be interesting to know what are the peculiar circumstances which give rise to the appearance of crystallized silex in the urine. The properties of the urine, in one instance at least, have been detailed by me in the Institution Journal for the quarter ending December 1829. The urine is the outlet by which noxious and useless principles, more especially if soluble, are ejected from the system. Silex may be found in many of the articles which form a principal part of our food, and hence it may be understood how Berzelius's analysis detected silex as a natural urinary constituent.

With respect to the means by which nature effects the solution of silex, there is but little upon which to form an opinion. The culms of many vegetables are covered by a glaze of silex; and if the vegetable can take up silex, we may readily imagine that the animal economy can dissolve and eject it from the system.

Silex, as a hydrate, is slightly soluble; and moreover, when recently precipitated, dissolves most readily in the caustic alkalies. The concluding observations of Dr. Yelloly upon this subject, merit attention : — " The precise modes in which silex is capable of being held in solution, have not all of them been distinctly ascertained; but this fact bears a considerable analogy to the deposition of regular

* The parsimonious quantities in which specimens are sometimes doled out, are wholly insufficient for satisfactory investigation; and some, even professional persons, seem to treasure up these memorials of past and indications of future misery, as if they were trophies to herald their fame to posterity.

crystals, of rock crystal, from solutions of silex in fluoric acid or in alkalies, after such solutions have been put aside for a considerable time*."

5, St. Vincent Place, City Road.

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## PRACTICAL OBSERVATIONS ON THE VARIOUS FORMS OF DYSPEPSIA.

By Robert Dick, M.D.

Author of a Treatise on the "Derangements, Primary and Reflex, of the Organs of Digestion, with an Addition," "Treatise on Diet," &c.

[Concluded from p. 549.]

### *Homœopathy and Hydropathy, as modes of treating Dyspepsia.*†

In the number for January 1846, of the British and Foreign Medical Review, the distinguished editor of that journal, whose name is associated with so many important professional undertakings, gives an exposition of homœopathy, equally remarkable for its ability and candour. It is, indeed, the opinion of not a few, that Dr. Forbes's fine sense of justice and fair-dealing has induced him to use more ceremony towards the theories and arguments of homœopathists than their palpably chimerical character merits or requires. This, however, is a fault on the right side. The system, I regret to say, is held by some men of education, ability, and information, and is countenanced by large numbers of the aristocracy. It was therefore worthy at once of Dr. Forbes, and of the profession which he represented, that his exposition of Hippocratic medicine (for I prefer this term to allopathy) and of homœopathy should be just what it is, dignified, candid, argumentative, and evincing unequivocally on the part of the writer a paramount love of science and of truth. The having written this article must, we conceive, be to Dr. Forbes an enduring subject of happy retrospect.

I do not propose, on the present occasion, to enter on any elaborate examination of homœopathy. Even were this task undone, and could I execute it successfully, it would probably be of extremely slight use. Who has not observed that intellectual errors, that visionary theories, just like moral disorders or physical diseases, usually run a certain prescribed course, and die rather from an inward exhaustion, than from the outward influences brought to bear on them? We must now leave the public to find out the paradox and absolute nullity of homœopathy as a mode of curing disease. I do not doubt that the almost incredible absurdity (for such I must regard it) of infinitessimal doses will one day be understood and exploded, but possibly not so soon, by any means, as some would suppose.

It is the very paradox and incomprehensibility of the doctrine, that medicines acquire activity in proportion to their dilution, and its contradiction to ordinary experience in physic and physics, that are likely to secure it a long tenure on the credulity and ignorance of society. It is still the purely mystic parts of all systems that their partisans most implicitly credit and tenaciously cling to; and it is, moreover, by means of these very mysteries, rather than by anything useful or intelligible, that vulgar attention is arrested, and converts made!

The doctrine of Hahnemann, that a decillionth dose of any known substance whatever, is a powerful remedy,—is a remedy at all, or is not as absolutely inert as any atom of air that wanders through the heavens,—I would reject on precisely the same ground, and with precisely the same confidence, that I would the assertion, that my thirst would be better quenched by a drop than by a draught of water; and my hunger better appeased by a grain than by a loaf of bread. The human mind is prompted intuitively to reject certain propositions; such as, in their very terms, carry palpable absurdity or contradiction. We would not take time or pains, were it disputed, to demonstrate that a straight line between two points is shorter than a curve or an angle; and no more worthy of serious refutation, is the senseless dogma, that any substance acquires activity by dilution. All other parts of homœopathy are *plausibly*, we do not say *conclusively*, defensible, but this; yet this doctrine we do not expect to see readily given up: for were it so, homœopathy would immediately be so assimilated (as far as the public could perceive and judge) to Hippocratic medicine, that it would lose its present *prestiges* of mystery and novelty. Did

* On the Tendency to Calculous Diseases, &c. Philosophical Transactions, 1830.

† This article has been three or four weeks in the hands of the printer. The author is glad to see that some of its views are corroborated in an article in the number, just issued, of the British and Foreign Medical Review.

homœopathy not differ from the old system, in the marvellous minuteness of its doses, but merely in the *principle* on which medicines were administered, it would never have obtained any or much attention; for the curiosity of the public, more especially the morbid curiosity of hypochondriac men and nervous women, would never have been stimulated. Whether the black draught he was to swallow was to act on homœopathic or allopathic principles, a patient would not have cared a straw about; but when he is not only spared the black draught, but required merely to swallow a powder smaller than the smallest pinch of snuff, or to take a teaspoonful of limpid and tasteless water; and moreover told, that, even in these, he imbibes only a decillionth part of the active agent, his palate and his faculty of wonder are conjointly interested in the miraculous announcement. I need not add, what every man knows, that there are multitudes of women, who prefer whatever taxes their faith, stimulates their imagination, excites but never satisfies their curiosity, and exceeds their comprehension, to aught their minds can fathom.

In support of the doctrine of infinitessimal doses, I have heard instanced the alleged miasm or virus of typhus fever, &c. which, it is known, is so impalpable as not to be capable of detection, even in the air of crowded typhus hospitals. But, besides that the very fact of our total ignorance of typhous miasm makes its very existence still problematical, no analogy could be drawn, till it were proved that such miasm would act *less* energetically, if *more* concentrated than it usually exists. But may we not much more probably conjecture, that, supposing there is any typhous miasm or virus, it would, could we obtain it in a concentrated form, act with inconceivably *more*, not *less* energy, than it does in its attenuated condition: and that if, in the latter diffused state, it operates so fatally, it would, condensed or inspissated, operate with a deadly and instantaneous force, to which anhydrous hydrocyanic acid itself would perhaps offer a faint parallel? This, at any rate, and not the homœopathist's conjecture, is the more probable.

Since homœopathic treatment is so absolutely inert, and, for the very reason that it never does positive good, never does positive harm, (its evils and its advantages being purely negative,) it is difficult to convict it practically of error and absurdity. We can only, therefore, assail it by indirect and theoretic objections; and to one or two very serious ones of this kind it is open.

Homœopathy, I need scarcely observe, derives its name from the fact that the mode of treatment so designated is purposely made to *resemble* the *disease*, or morbid action, against which it is adopted. The homœopathist's object is to imitate and supplant the spontaneous (if we call it so) morbid action by a *medicinal* one. The reason which he alleges for thus seeking to displace the former or natural morbid action, by the latter or medicinal one, is, first, that (according to him) two morbid actions cannot simultaneously coexist in the body; that, therefore, (secondly) by introducing an action (the medicinal one) over which he has control, he can, at will, displace the natural morbid action, over which he has no control. So that, after he has fairly got the system under the artificial or medicinal action, and displaced the morbid one, he may simply, by withdrawing the former, leave the patient in health, at least free from disease.

Passing over the fact that this is a pure speculation, a simple conjecture, which may be warrantably met by any one who chooses to do so with any other and opposite conjecture equally gratuitous, I would remark, that as homœopathists do not pretend they possess an *infinite* power of supplanting one diseased action by another, how can they be assured that the medicinal action which they induce may not prove as unmanageable as the one which it removes? We constantly see instances of the slightest disorders, topical and systemic, progressing into severe or fatal constitutional maladies, which all treatment fails to arrest. Here, then, is one difficulty—a very obvious, practical, and serious one—involved in the theory of homœopathy.

Indeed, the theory of homœopathy, essentially, must be allowed to be somewhat questionable. Are we warranted in any circumstances, advisedly formally to indu disease? The

Hippocratic practitioner has always the satisfaction of believing his measures to be directly in themselves proper and useful; but the homœopathic practitioner avowedly, and by principle, acts on the objectionable plan of doing evil that good may follow. Let us imagine a course of proceeding in ethics exactly parallel and analogous to that which the homœopathist pursues in physic. We shall be compelled to pronounce it reprehensible. Now a principle which would be held false and pernicious in one branch of science can scarcely be supposed to be eligible or suitable for any.

Let us suppose an infant has acquired a *habit* of aversion or antipathy to its nurse. Whenever the latter presents herself, the child sobs, screams, and exhibits every sign of passion and fury. Would the father of this infant act justifiably, if, in order to divert its attention from the nurse, he should take means to render himself an object of its rage, with the intention that, after he had broken its habit of animosity towards the nurse, he should cause its more recently-formed dislike of himself to cease, by presenting it, perhaps, with toys or confections? What should we think of a guardian who proposed to cure a passion for gambling in his ward, by conducting him among handsome prostitutes? Yet, in *morals*, the methods of reformation just instanced, particularly the former, would be exact counterparts of homœopathic medical treatment.

Though the utmost charity I am capable of exercising cannot induce me to believe that all who have adopted homœopathic principles and practice have done so honestly, and not with the degrading and unprincipled view of taking interested advantage of the ignorance and gullibility of the public, and of its temporary partiality for a medical novelty, yet I believe there are, and I have the pleasure of personal acquaintance with, individuals, whose sincere conviction of Hahnemann's doctrines I cannot doubt. Still, as my own feelings, tastes, and views, would lead me, neither in medicine, nor in anything else, to profess or to practise anything mystic and incomprehensible; as I would consider the continuing to do so through a succession of years, as deeply injurious both to my intellectual and moral nature; so I regard as unfortunate, and as to be pitied, those gentlemen, who have seen fit to adopt Hahnemann's dogma of infinitessimal doses, which, I conceive, requires, on the part of its recipients, as slavish an exercise of faith, and as complete a surrender of reason, as any visionary chimera ever propounded by error or imposture to folly, or to the blindest enthusiasm.

With such views of homœopathy, I do not of course augur from it the slightest *positive* effect, good or bad, in the treatment of dyspeptic or of any other disease. I have known cases, however, where the dietetic restrictions imposed by the homœopathic practitioner have been serviceable, but I need not add my conscientious conviction that it was to these alone, and not to the medical treatment, that the benefit was due. On the other hand, I know cases, in which derangements, which had remained unabated under homœopathic, vanished after a few days of Hippocratic, treatment. In such cases, as in many others, homœopathy placed the patient in hazard, not, indeed, by what it did, *but by what it left undone:* and it is of great importance to remark and to impress on the minds of the profession and the public, that in this point of view, and owing to the circumstance alluded to, homœopathy, *though a negative, is far from being a harmless or non-dangerous system.* It is by the vulgar eye and judgment only, which see nothing but what is palpable and immediate, not by the reflective philosopher, the master politician, or the experienced physician, that errors of omission are estimated as a whit less actual and grave than those of commission. Empires, armies, societies, individuals, patients, *are as often lost by not doing what is necessary, as by doing what is wrong.*

*Hydropathy.*—This is a much clumsier and less ingenious system than homœopathy, and owing to this fact, and also to the water treatment being so incomparably more laborious and disagreeable, its duration is likely to be much more limited.

To that part of Priessnitz's treatment which consists in the induction of sweating, there can be no objection, except in so far as it differs from the mode which has been in use for 2000 or more years. The causing of sensible perspiration by aqueous drink, and by

the imposition of warm and heavy clothing, has been immemoriably known and practised. The applying of cold wet sheets, cold douches, &c. *previous* to the induction of sweating, is, then, the only point in which Priessnitz's mode differs from that of all time; and this addition it precisely is which is either unnecessary or dangerous. It is unnecessary, for it is the sweating, not the cold immersion, that works the benefit. It is dangerous, for who can tell what metastases, what congestions, may be caused in the cold stage of this treatment: congestions, which the subsequent sweating, supposing it to be induced, may not fully or at all relieve? For every medical man knows the difficulty of establishing sufficient reaction, in debilitated and cachectic subjects, after exposure to abrupt and incautious depression.

The point for inquiry is, whether a person using cold water as his staple drink, and merely employing the old-fashioned method of cold sponging or the shower-bath in the morning, would not attain all the benefits which Priessnitz's lavish and ostentatious, external and internal, use of water produces? We believe he would; and, therefore, though we give Priessnitz credit for sincerity, we ascribe his error to ignorance and narrow-mindedness, and we sincerely pity the thousands of persons whom his influence, during the last few years, has engaged in those peculiar duck-like exercises and manœuvres, which characterise his treatment.

We cannot but here express our regret that Sir E. Bulwer Lytton should have formally lent his name and advocacy to a system so *one*-sided and so rude. For in what consists the essence of the hydropathic theory? In unduly claiming for one only of the hygienic means, what is due to several or to all. Let us read Sir E. Lytton's case, as detailed by himself. Had exercise, pure air, simple diet, early hours of meals and sleep, withdrawal from excitement, intermission from study, not a share, and a not inconsiderable share, in *his* cure? Yet, forgetting all this, he has endeavoured to teach the public that the whole merit is due to the water-cure! We have sometimes thought that, in the universality of his literary pursuits, fiction, history, poetry, essay-writing, (the Student) Sir E. has sought to emulate the greatest, perhaps, of French genuises, Voltaire; but let us assure him, that Voltaire, had he lived, would never have penned the "Confessions of a Water-Drinker," nor connected his name with a transient folly.

On the same ground that Priessnitz sets up pure water as a cure for all disease, another man might proclaim pure bread; or, with much more plausibility, now that the most various and extensive uses of respiration are beginning to be understood, *pure* air, or oxygen, as the panacea for all diseases. But the truth is, pure air, without pure water, plain diet, and exercise; pure water, without pure air, exercise, and plain diet; plain diet, without exercise, pure air and pure water; exercise, without plain diet, pure water, and pure air; —in short, any *one* hygienic means, to the exclusion of other hygienic means, will fail to cure disease: and it is Priessnitz's and Sir E. Lytton's mistake to have thought and taught the contrary.

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## OBSERVATIONS ON LIGATURES AND ANEURISMS.

By T. Wilkinson King, Esq.

[Continued from page 203.]

Section I. *(continued).—A general view of facts relating to bleeding after ligature of the arteries.*

*There is a critical day for the discharge of ligatures, before which fatal bleedings arise, and after which the thread comes off safely. Late hæmorrhages are comparatively safe, and tardy ligatures harmless.*

The above will be found sufficiently proved in the course of the following details, in which Mr. G. King's labours have been a chief resource. At the same time it has been my object to lead to other *inferences*. The student should at least bear in mind the presumptions, 1st, that bleeding a certain period anterior to the separation of the ligature may be partial and undue injury to the artery; 2d, that bleeding any reasonable time after the separation of the cord (especially if late) is much more simply and evidently defective repair; perhaps fluctuating

repair? 3d. If there be a case of too loose a ligature, it remains altogether a new topic, for observation, discussion, or demonstration.

A case of ligature of the subclavian, by Dr. Warren, (Med. Gaz. Dec. 5th, 1845) confirms my late paper in a remarkable manner. The ligature was removed on the 13th day, and on the 20th a pint of blood was lost, but with pressure the man got well. Dr. Warren had nearly divided the anterior scalenus, as Dupuytren did.

Mr. Mott put a ligature on the arteria innominata with tightening irons. It came off on the fourteenth day. The fatal bleedings commenced on the 23d. The man was aged 57. Graefe's patient did well for several weeks, but then the wound bled fatally. Late ulceration superadded, as from abstinence, depletions, or constitutional changes, seems to have interfered. The cicatrix of an amputated breast after three or four weeks may be seen rapidly laid open or excavated by a kind of acute atrophy.

More time for repair seemed a main desideratum in these last cases. The same applies to a third fatal case of hæmorrhage (Med. Gaz. xii. 859); and, indeed, the only six known instances of the operation on the innominata seem to indicate, that only an approach to cutting the ligature is a most desperate matter. May not the same hold with regard to ligature of the aorta?

Dr. Norris's original table shows four cases, in which the subclavian was secured internal to the scalenus. One died of bleeding on the 4th, one on the 12th, and one on the 18th day. The fourth ended on the fourth day with chest inflammations*.

M. Dupuytren tied the axillary for subclavian aneurism, in a man, æt. 40. The sac seemed only to beat the more. A slight triple ligature was used, and some blood was abstracted. From the fifth day bleedings and compresses, and on the eighth death. The thread had divided only about half of the inner coat, (1829; Leçons Orales, t. 3, p. 132.)

In the museum of King's College is a carotid which was tied on account of bleeding from one of its branches. The ligature remains enclosed in abundant solid repair, except that a fatal perforation leads to the lower division of the artery. I cannot but think that a slower process might have fully obviated this.

At Guy's there is a carotid tied, secundum artem, only a few hours. The artery seems as nearly in two as it well could be without instant hæmorrhage.

In a female, æt. 40, Mr. Porter tied the carotid within about three-eighths of an inch from the innominata. The ligature came off well on the 19th day, (Dublin Hos. Rep. vol. 217).

Mr. Robinson had a like success. On a major, æt. 52, he tied the carotid within half an inch of the innominata. The ligature came off on the 17th day. Mr. R. thought that the loss previously of near 100 ounces from the ruptured aneurism was a cause of the happy result.—(Dublin Journ. of Med. Science, vol. xii. p. 335.)

As to the safe casting of carotid ligatures, I should say that of 30 examples I find about one separation for each day between the 11th and 30th, with 10 additional ones about the 20th day. One thread came off in the 12th week, curing an aneurism of the innominata in a man of 30.—(Wardrop).

I find the carotid comparatively and experimentally a very stout tube in addition to the absence of branches. The ligature of the carotid seems but little liable to induce bleeding. Mr. Lambert tied the vessel in a female, about 49, and closed the wound upon the knot. It bled on the 10th day, and then cicatrized. On the 35th day a sinuous opening, with a tumid granule, appeared, and should have pointed out the latent and mischievous sequestral knot (healing effort overcome by repeated accumulations of pus). He strove to close this wound. After the 46th day 12 days of more or less hæmorrhage overcame her, and wound up a rare lesson. He who failed here was able and feeling; the shame of his brief life was, that he bore the worst testimony that ever man did against a much more uncertain error by one of the noblest men of his time. Yet a wrong-headed man may be commiserated. The witness-box was alike the grave of the accuser's honour and his peace.—(Ibid.)

An unhealthy man, æt. 36, having

* Three of the operations were below the clavis, and two of them successful. The third—almost hopeless attempt—was fatal on the second day.

cut his throat, his carotid was tied. On the 8th and 9th days there was slight bleeding, but on the 21st the ligature came away well. After a month he had cough, &c. for three or four weeks, and then he seemed to be doing well. The wound was tardy, and now bleeding carried him off. There was an abscess at the seat of the ligature, with very abundant thickening and contraction of and about the vessel, except that the orifices were still pervious. They were half an inch apart. Here also had been a remarkable granule at the mouth of the wound (?)—(Cusack, Dublin Hos. Rep. iii. 335.)

Mr. Crampton tied the common iliac artery; hæmorrhage followed, fatal on the fourth day. Mr. Gibson's case was fatal on the 13th day by peritonitis and hæmorrhage. A ligature on the common iliac separated on the 7th day, and on the 10th a sudden hæmorrhage was fatal.

In the cases of Mott, Pearce, and Guthrie, the threads came off well on the 35th, 18th, and 26th days.

Mr. Guthrie's patient, a lady, with cancerous tumor, survived eight months. After this lapse of time his frank clinical account runs, that he used "a small thread ligature, and the noose was tied remarkably tight." There appeared an obliteration or solid repair of about a quarter of an inch at the middle of the vessel. Mr. G. intimates that the ligature just cut the artery through, and the two cut edges united. My view of this very speaking result will be somewhat different.

I am informed of another case recently, in Paris, fatal from hæmorrhage by the tenth day. Sir C. Bell tells of a *tight* ligature of the external iliac, with bleedings on the seventh day, followed by ligature of the common iliac with like results; and he seems to infer that tight ligatures were the main causes of failure. — (Clin. Lect. Med. Gaz. vol. xiii.)

In a man, æt. 42, the external iliac artery being tied, blood began to ooze at once. Now the common iliac and femoral arteries were tied, and also the femoral vein (it having been wounded in the dissection). The first ligature came off on the sixteenth day; the second on the fourteenth; the third well on the twenty-sixth; and the last, or that on the vein, on the fifth day, (Deguise, Gaz. Méd. May 1840). The following case occurred a good while ago in Guy's Hospital:—

A pretty healthy carpenter, æt. 52, had a moderate aneurism high up in the thigh. The external iliac was tied; slight fever arose; he seemed to be steadily mending for a day or two, but sitting up on the fifth day, two pints of blood were suddenly lost, and, although the upper orifice was again secured, he sank in three hours (MSS. of H. Hales, with T. K.)

We find ligatures on the femoral artery producing hæmorrhages either early or late, fearful or hopeful. Langstaff, p. 138, gives a case fatal in a few days.

Another bled on the 10th, and on the 13th gangrene was fatal.—(Houston, p. 121). In a third case, the ligature separated on the 9th, and bleeding led to a fatal amputation. In a fourth, a clot was found in the wound on the 10th, and on the 11th, after a gush, amputation was successful.

Sir A. Cooper mostly employed a single ligature to the external iliac. Of seven cases five recovered, one died of sloughing, and one of bleeding by the fourteenth day *.

In 1816, M. Dupuytren tied the external iliac †, in a man æt. 45, with

* The following case may be considered in different lights according to the views of various readers.

A decidedly delicate man, æt. 28, had inguinal aneurism six or seven months. The external iliac was tied, and ten ounces of blood were drawn for five successive days, and again ten on the tenth day. Digitalis and rather active febrifuge medicines were employed. He seemed now to mend, and the wound looked well. The ligature came away well on the 21st day, but on the 24th, while a pupil was putting a roller on the foot, there was a profuse bleeding, and in the course of nineteen days more, four other hæmorrhages. The artery was now again secured, six days after which tetanus was fatal.

Want of repair and the patency of the tubes was most remarkable. The great depletion will account for all this. I cannot but think this was a near approximation to a cure when bleeding began, and possibly even later.

† Mr. Abernethy led the way in the operation of tying the external iliac artery. A man, æt. 34, had two ligatures placed tightly around the femoral artery, and the vessel was divided between them. The ligatures came away well on the 10th and 15th days respectively.

A considerable time afterwards, the same man had a like operation performed on the opposite thigh; bleeding ensued on the 15th day. A single ligature was now used to secure the external iliac. There were hæmorrhages on the 5th, 6th, 7th, and 8th days; the last was fatal. In Mr. A.'s second case, he put two ligatures on the external iliac, and cut between them. The threads separated about the 20th day. The man was aged 40, and sank from sloughing of the aneurism. The third operation was on a female, aged 40, for aneurism, and was successful; one

one ligature, and one in reserve. Fever followed, and some venesections. The threads came away on the 16th. Granulations were cauterized. Hæmorrhages on the 23d and 24th led to the tying of the upper orifice. The lower still bled, but compression accomplished the cure.—(Leçons Orales, 3, 70).

Mr. Frere's (the first successful) ligature of the external iliac, was a single thread as tight as Dr. Jones could desire. It separated without mischief on the eleventh day. The man was aged 27. Mr. Tomlinson's case followed: a male, æt. 40, had one ligature applied; it came off safely on the twenty-fourth day.*

The external iliac has been tied very close to the common iliac with success; the ligature separated on the twenty-fourth day. The case seems well authenticated. Mr. Bellingham operated. The patient was a man aged 32.—(Med. Gaz. vol. xxxi. p. 29).

In a man, æt. 27, the femoral, tied for cirsos, bled on the 5th. The external iliac was now tied; it bled on the 5th, and again on the 6th fatally. In all such cases tight ligatures seem nearly hopeless.—(Med. Gaz. vol. xxxi. p. 107.)

On the other hand, a case of femoral bleeding on the 19th day was well on the 36th. Another bled on the 15th day, when the external iliac was tied. It also bled sixteen days later, but the patient recovered.—(Ibid. xxxi. 635, and xv. 908).

A man, æt. 53, had two popliteal aneurisms, and Mr. Brodie put a ligature on one femoral, which separated on the 14th day, and caused bleeding on the 28th and 30th.

A second ligature, close below the profunda, arrested farther loss here. It separated on the 21st day, but twelve days later a series of bleedings began extending through forty days, and inducing fatal gangrene.—(Med. Gaz. vol. vi. p. 190). Here I would presume scanty repairs suddenly declining. The first ligature could hardly have been quicker and safer; the second was unfortunately placed, and I infer generally, that depletion favours ulceration, as it must at least retard repair.

A male, æt. 54, had two ligatures put on the femoral, and the artery divided. The threads were discharged on the 23d day. Bleedings followed, but the cure was good.—(Edinburgh Med. and Surg. Jour. Oct. 1807, p. 407.)

Dr. Murray applied a ligature on a fat man, æt. 31, one inch below Poupart's ligament; on the 15th there was great bleeding, and he tied the external iliac. In fifteen days more, a bleeding, supposed to be distal, was cured by pressure.—(Med. Gaz. vol. xv.)

Five or six examples of slow femoral ligatures, and of harmless late hæmorrhages, I reserve to relate in connection with subsequent points of my subject.

The superficial femoral artery is mostly favourable as to size and site, &c. for even doubtful attempts; but I imagine that surgeons of experience will consider Mr. Syme's fortune a rare one; he "having tied the femoral thirteen times for aneurism, and never having met with the slightest symptom of an unpleasant nature from the operation."

Safe femoral ligatures appear to separate about one for each day from the tenth to the twenty-third; with half as many more for the sixteenth, or near it. Of more than twenty examples, two were separations as late as the thirty-first day.

We need hardly contend that by chance, or design, arteries are tied with different degree of severity, and that the gentlest operation must at times cause bleeding. We have shewn enough of te fact of later serious hæmorrhages, and that these are not so much chargeable to the ligature as to the constitution. Can we here sup-

ligature, the lower, came off on the 4th day, the other on the 15th. He records a fourth similar case; the two ligatures came away happily on the 10th day.

* A scanty statistical supplement of similar successful operations might seem to divulge a truth almost by itself. Two ligatures (no doubt tight), with a cut between, came off on the 11th.—(Edin. Med. and Surg. Jonrnal, 1815). Two without the cut separated on the 14th.—(Goodlad, Med. Chir. Trans.) From the 15th to the 23rd, I have near one for each day, and then, on the 24th day, five separations. Surely the last were not the tightest of the safe, although pretty certainly the safest of the tight. In addition to these I may name Mr. Lawrence's case. For a man, æt. 40, he applied his small tight noose on the external iliac, and closed the wound. The knot was heaved out by the 24th day. It appears that Mr. L. may at least have included lymphatics in the noose. There was a great discharge of serous fluid. The case did well. Mott, again, tied the external iliac in a man, æt. 38, for an aneurism the size of an egg, which vanished almost at once. The ligature separated well on the 42nd day.—(Med. Gaz. vol. xx.)

pose that more rapid changes could have availed better to divide and seal the tubes? Where there is a considerable time between the casting of the ligature and the subsequent bleeding, should we not infer repair scanty, declining, or even vascillating?

Perhaps the strongest and safest mode of declaring the main inference from all the foregoing, is, to ask, What does any one know of evil from slow ligatures? Is it premature to inquire what is known of the harm of ligatures made less tight than the prevailing law prescribes?

Every one will agree that the early separation of a ligature from a large vessel is a most alarming consideration. The present practice is well nigh desperate for the arteria innominata, the subclavian internal to the scalenus, and for cirsos of the thigh. It is bad enough for the common iliac, and, as it would seem, for all large vessels, when it chances that a branch is given off near above the ligature.

Should not these data suffice to warn the surgeon against extreme force in tying arteries? Should they not encourage him to rather gentle practice?

I think I am prepared to shew that the doctrine of *cutting ligatures* is still more questionable in various points of view, if not absolutely groundless.

When individual experiences are weighed in the balance of comparison, and their qualities tested in the furnace of impartial reason, which is not more fallible though more communicable, the sway of authority is moderated. Time becomes the nurse of truth; opinions fade before realities; gasconade is forgotten in spite of its successes; and even the defects of the foregone great may serve to guide our feeble efforts. A wreck may be a beacon of safety.

[To be continued.]

### SOCIAL DUTIES OF THE SURGEON.

THEY must also be gracious and good to the poore, and of the rich take liberally for both. And see they never praise themselves, for that redoundeth more to their shame and discredit, than to their fame and worship. For a cunnning and skilfull Chirurgion need never vaunt of his doings, for his works will ever get credit enough. Likewise, that they despise no other Chirurgion without a great cause, for it is meet that one Chirurgion should love another, as Christ loveth us all.—*The Englishman's Treasure, by Mr. Thomas Vicary, Sergeant Chirurgion to King Henry* 8th, &c. &c.

# MEDICAL GAZETTE.

FRIDAY, APRIL 3, 1846.

THE medical reform fever is gradually spreading over Europe. Independently of the movements which have taken place in France and England, the kingdom of Saxony is now occupied with plans for the reformation of the medical profession. The Medical Association of Dresden claims the abolition of all grades among practitioners, and that there should be only one class, the members of wnich should submit themselves to the same scientific tests of competency before being admitted to practice. In their other demands, our brethren of Saxony proclaim to the world that they are no further advanced than we were in this country exactly a hundred years ago. Thus they insist upon the links which still connect them with *barbers* (!) being at once and for ever rent asunder, a favour granted to us by the 18th George II., c. 15. In short, they appear to be much in the position in which English medical practitioners were, during the latter part of the reign of Henry VIII., when that worthy patron of the medical profession ordained that there should be an incorporation of barbers and surgeons, to be at all times hereafter called "The Mystery and Commonalty of the Barbers and Surgeons of London, for evermore and by none other name." Nor could the surgeons succeed in effectually obliterating Mambrino's helmet from their escutcheon, until after the lapse of two centuries. We are anxious to know why Saxony is so far behind the other countries of Europe as to render it necesssary, in the present day, for her medical men to make a solemn demand that their profession should be severed from the low trade of "barbery."

Another demand of the Saxon reformers is, that the medical school, which is now more than three leagues distant, should be removed to Dresden: a very reasonable request, and one which would involve but a slight concession on the part of the legislative authorities. We regret to find it further announced that the medical school is so badly provided with subjects for dissection and operative surgery, that, as matters stand at present, a man can neither become an anatomist nor a surgeon in Saxony! Here, again, the Saxon Government might profit by the example of Henry VIII. As it is not perhaps commonly known to Englishmen that this king was one of the first patrons of anatomy in this country, we are induced to qnote part of the Act which was passed in the thirty-second year of his reign. It was provided—"That the said Masters or Governors of the Mystery and Commonalty of Barbers and Surgeons of London, and their successors yearly for ever, after their said Discretions, at their free Liberty and Pleasure, shall and may have and take without Contradiction, four persons condemned, adjudged, and put to death for Felony, by the due Order of the King's Laws of this Realm, for Anatomies, without any further Suit or Labour to be made to the King's Highness, his Heirs or Successors of the same; and to make Incision of the same dead bodies, or otherwise to order the same after their said Discretions at their Pleasures for their further and better Knowledge, Instruction, Insight, Learning and Experience in the said Science or Faculty of Surgery." In England we have some reason to complain of the wants of the profession not being sufficiently attended to on this score; but the difficulty at present appears to be due to the great multiplication of schools. In Saxony, however, there is no legal provision for this important branch of a medical education.

Upon the propriety of some of the demands of the Saxon medical reformers, there can be no sort of question. We have considerable doubts, however, whether the reducing of all practitioners to one grade, can be accomplished by any legislation: and we think that the attempt to establish the same scientific tests of competency for all, would tend to defeat the object of the reformers, by rendering the profession still more exclusive than it is. In the present day it would not be submitted that the system of education and the tests of competency, adopted by the Apothecaries, or any similar society, should be made the sole standard for admission to professional practice: and if the standard were raised to that adopted by the University of London, or even to a higher degree, it is quite obvious that a large number of those who are now admitted would be rejected. This would be followed by an outcry that too high a qualification was demanded, that an acquaintance with mathematics, classics, and the more refined parts of scientific medicine, was not necessary in order to qualify a man for general practice; and that his means would not allow him to pass through all the expensive courses of study required for a University degree. Every person admitted into the profession, should undoubtedly have his studies so regulated that he may be competent to treat cases requiring the knowledge of the physician, the surgeon, or the accoucheur: but it would, we believe, be considered by many persons, an injustice to make his right to practice depend upon his passing an examination like that for the M.D. degree in the University of London. If this were the rule, the profession would assuredly soon cease to com-

plain of being overstocked. Thus, then, the question appears to us to stand in this light—either there must be one or different standards of education and competency; if one be taken, this will certainly be placed much higher than that which is at present adopted by many licensing bodies, and then we think no one could object to a man becoming a surgeon or physician at his option, because we are assuming that besides having proved himself to be a highly educated man in mathematics, classics and physics, he has also shown himself to be qualified to practise in medicine or surgery. This is the only reasonable view that we can take of that species of medical reform which professes to be based upon *one* system of education, *one* test of competency, and unrestricted liberty to practise in any branch of the profession. With respect to the practicability of this scheme we offer no opinion. Our professional readers will, we are sure, be able to come to a conclusion, without any suggestion from us. Let us take the other case, *i. e.* that there are several standards of education and competency, some demanding a longer period of study, and much more extensive information in scientific medicine, than others. Admitting that this plan received the sanction of the Legislature, it would, we think, be obviously inequitable to place those who had passed successively through the higher grades of study and qualification, on the same level with those who had preferred the lower standard. Besides the manifest injustice of such a Procrustean system, it would be a species of tyranny, which with the aid of the public would soon defeat its own object. It would simply be an attempt to bind the fast to the slow, and if not suppressed by the force of public opinion, it would assuredly lead to the degradation of the profession. When, therefore, our brethren of Saxony require the union of all the grades of the profession into *one*, and that there should be only one test of competency for all who enter it, we think it would have been wise to have accompanied the demand with some explanation, so that the public might judge whether their intention was to reduce or to raise the standard of professional qualification.

## Reviews.

*The Modern Treatment of Syphilitic Diseases, both Primary and Secondary; comprising numerous formulæ for the preparation and mode of administration of the new remedies; and an account of a safe and successful mode of treating Chronic, Protracted, and Constitutional Syphilis by the Mercurial Vapour Bath.* By Langston Parker, Surgeon to the Queen's Hospital, Birmingham, &c. Second Edition. Small 8vo. pp. 288. London: Churchill. 1845.

Several years have elapsed since Mr. Parker's unassuming treatise began to claim the favourable attention of the profession, by the soundness of its practical information, the conciseness of its details, and, above all, by the cautious but distinct manner in which the treatment appropriate to each form and stage of syphilitic disease was judiciously set forth. Few practical surgeons, therefore, will require that we should enter into any analysis of the second edition; and we trust those of our readers who can at present only boast of the laudable intention of becoming practical surgeons as soon as possible, will rely upon our assurance that, during the period in which it is necessary that their opinions should rest wholly upon the experience of others, they cannot adopt more intelligible or more accurate views than those which are afforded in Mr. Parker's little volume.

In this edition, Mr. Parker has made such alterations and additions as were necessary to bring the information fully up to the standard of our present knowledge, and several original and inte-

resting observations have been introduced. Among these is one to which the author appears to be disposed to attach considerable importance—an account of the treatment of various forms of syphilis by the mercurial vapour bath. We shall quote the author's principal remarks on the subject, as the remedy appears to be one of easy application and tested value.

"Vapour bathing and mercurial fumigations have for a long period been employed in the treatment of syphilitic diseases, more particularly of the constitutional forms, and with the best success. In England this mode of treatment has been too much neglected, but in the great venereal hospitals of Paris and Hamburgh the value of this method is fully and justly appreciated. I have adopted, however, a method somewhat different to any I have hitherto seen used: it consists in the application of mercurial vapour in a moist state to the surface of the skin, combining, in fact, the mercurial fume with the ordinary vapour bath. I have made a number of experiments on this combination, and found it succeed in a variety of cases where mercurial fumigation, or the vapour bath, employed separately, had failed. These baths should be associated with an appropriate internal treatment. I have certainly seen them succeed where internal treatment had failed, but in most instances they should be associated with it. Such, however, is their efficacy as an auxiliary measure, that in all instances the internal treatment may be of the mildest kind. When mercury is indicated, the assistance afforded cannot be too highly appreciated, since half the quantity of the remedy will suffice for the completion of the cure, which is accomplished without risk to the constitution of the patient: a circumstance so much to be dreaded under the old mercurial plan of treatment. In fact, the baths are so efficacious that, frequently, internal treatment will not succeed without them. I could bring forward many cases as evidence of this. In one, the patient had undergone a regular mercurial treatment for a primary sore, followed by an excavated ulcer of the tonsil, and a scaly eruption; he was profusely salivated, and kept the house for a month. Two months after he supposed himself cured, he became again covered with a similar eruption, which entirely and permanently disappeared under the use of the baths and very minute doses of the bichloride of mercury with guaicum. This treatment did not confine him an hour. In a second case, the patient had an indurated cicatrix of six months' standing (a symptom confessedly difficult to remove), with an excavated ulcer of one tonsil of several weeks' standing. He had been taking, under an eminent surgeon, five grains of calomel, and as much blue pill, night and morning, for three weeks, without the slightest influence upon the disease; which entirely disappeared under three weeks' treatment by the baths, and nightly inunctions of a very small quantity of mercurial ointment. This patient was not confined during treatment. The permanent (?) induration of the cicatrix of a chancre I have seen in several instances removed by the baths when all internal treatment had failed. I speak of this symptom particularly, as perhaps one of the most troublesome, and the most difficult to remove, of any form of primary syphilis; it being, as we too well know, the '*forerunner of accidents to come.*' In the treatment of the primary sore, the mercurial vapour bath has little efficacy, though I recommend it to be employed when the sore is about to heal, particularly if any induration be present, or if any remain after the wound has closed. In all the secondary forms of disease, more particularly those of the skin, the mercurial vapour bath finds its application associated, according to the form of the eruption, and the nature of the accompanying disease of the throat, with whatever internal treatment it is thought proper to employ. The mercurial vapour bath is to be looked upon as an auxiliary remedy, but an auxiliary which diminishes the duration of ordinary treatment at least one half. It should not be employed during the fever, which sometimes accompanies the onset of many of the forms of syphilida. Here, bleeding, antimonials, and aperient medicines, should precede its use. In diseases of the bones and periosteum, in chronic enlargement of the glands of the groin and of the testis, in the cachectic conditions which are the result of protracted diseases, and repeated mercurial treatments, which have broken down the constitution, these baths, combined with remedies calculated to improve the general health, in most instances work the most remarkable cures."

The apparatus for producing the mercurial fumes consists merely of a spirit-lamp and a china plate, upon which the cinnabar or bisulphuret of mercury is laid. The quantity of cinnabar necessary for each fumigation is from twenty grains to a drachm.

It appears that Mr. Parker intends publishing a set of cases illustrative of the efficacy of this mode of treatment. We are glad to meet with any feasible plan which seems likely to supplant those uncertain and dangerous measures by which secondary symptoms are often converted from a severe infliction into a deadly evil.

*The Nature and Treatment of Cancer.* By Walter Hale Walshe, M.D., Professor of Pathological Anatomy in University College, &c. 8vo. pp. 591. London: Taylor and Walton. 1846.

Several years have now elapsed since a newly-acquired insight into microscopical research, and the chemical analysis of animal substances, began to work an almost entire change in the pathologist's opinions of morbid structural changes and diseased processes. The progress of this revolution has been rapid—singularly so when the nature of the difficulties to be overcome is considered—and a large number of important leading principles, with a host of interesting elementary facts, have become fully, and it would seem permanently, established. Still, although it must be admitted that under the new system of minute investigation, much that was erroneous in the opinions and in the nomenclature of former times has been corrected, it is extremely doubtful whether any one series of the newly-discovered facts can at present be made to form a complete and consistent system. The data which we now possess with regard to the microscopical structure of diseased tissues, and the chemical condition of the animal solids and fluids under morbid states, are nearly all of an isolated kind, and are not at present by any means worthy to be taken as the basis either of a new system of pathology, or of a new plan of treating diseases. And thus it happens that every work which attempts to explain the nature of disease, either by microscopical demonstration, or by the results of chemical analysis, always appears, in a certain degree, to fail in establishing the intended results. These remarks have been particularly called forth by a perusal of Dr. Walsh's admirable monograph on Cancer. It will be observed that, although this work is replete with comparatively novel facts illustrative of the morbid anatomy of cancer, and abounds with arguments in which many of the once celebrated doctrines of former pathologists are distinctly refuted, we cannot but feel, as we close the book, that our ultimate knowledge of the nature and treatment of cancer remains almost as contracted as ever. The whole detail of its morbid appearances and chemical properties leads us but to the old conclusion, that cancer results from a process of diseased nutrition depending upon an undiscovered cause; and that every form of malignant disease must yet be considered nearly as intractable as ever, the only chance of relief still resting in the employment of means for the early removal of external tumors, and the adoption of alterative treatment. We do not offer these remarks at all in depreciation of the valuable modes of investigation to which we have alluded: we are well aware that it is only upon a minute acquaintance with the healthy and morbid changes of the animal economy that anything approaching to an exact system of therapeutics can be based, and we are certain that the modes of investigation at present employed are well calculated to supply that fundamental knowledge: still this good result must be the work of time, and it may give rise to much difficulty and some disappointment, if attempts are made, at this stage of our knowledge, to substantiate great principles by new and almost unproved facts.

We feel some difficulty in making selection from the immense number of novel and interesting materials which Dr. Walshe has collected: we shall, however, in the first place, endeavour to give a brief sketch of his views respecting the origin of cancer; and then, if space admit, quote a few of his observations on matters of detail.

Dr. Walshe combats, and we think with great justice, the opinion of Dr. Carswell, who argues that the matter of carcinoma is primarily formed in the circulating blood; he appears, however, to be not unwilling to admit that carcinomatous granules may be produced in the coagula which are sometimes found obstructing certain of the vessels in cases of malignant disease: but we cannot attach much weight to this latter hypothesis. The following quotation will convey Dr. Walshe's views respecting the *nature of cancer*:—

"The following is the view which I conceive may be taken of the nature and sequence of the phenomena of the disease. A certain constitutional state exists, and may continue to exist for a variable period, without giving functional evidence of its presence, although the blood and solids of the body are specially modified." (The author admits that micro-

scopical and chemical inquiries have failed to demonstrate the primary change in the blood). "In consequence of local injury, or otherwise, exudation takes place; upon that exudation the constitutional state has impressed special attributes and tendencies—among those attributes ranks an intrinsic power of vegetation. This vegetating faculty of the exudation re-acts on the system by constantly draining it of a portion of its nutrient materials—the progeny feeds upon the parent organism, and the first phasis of evolution is accomplished. But the natural tissues have been so modified in properties by the constitutional state, that they are incapable of resisting the encroachments of the vegetating exudation, and have become the seat of atrophous, ulcerative, and other modes of destruction. Discharges of various kinds now still farther drain the system of its fluids, and drain its vital energies; and the second phasis is established. Meanwhile secondary alteration of the blood is effected; this fluid becomes the vehicle for the circulation through the system of elements possessed of a germinating force; these stagnate, are deposited, and new local vegetations spring into life and activity. The same series of phenomena is again and again gone through; until the system, drained of its reparative fluids, in feeding exudations and supplying discharges, exhausted of almost every drop of pure blood, through the influence of secondary cancerous impregnation, paralyzed in its nervous energies by physical anguish and deficiency of pabulum, sinks in the struggle against the superior powers of the new existence it has created; and in death is closed the third phasis of the disease." (pp. 189-90).

Ingenious and probable as this theory undoubtedly is, it will at once be seen how greatly it falls short of explaning the true nature of the actions which originate and propagate cancerous disease in the system. Dr. Walshe is a strong advocate of the opinion which attributes the formation of secondary cancer to the absorption of the germs of malignant matter, their entrance into the blood, and their subsequent deposition in the capillary vessels of the liver, lungs, and other organs; but he is compelled to admit that the proof of this doctrine has hitherto failed:—cancerous material has never been discovered in the circulating blood, and the injection of carcinomatous matter into the vessels of the lower animals has failed to reproduce the disease in their systems. The great question to be decided, therefore, is, do the germs of cancer constantly or under particular circumstances find entrance into the circulating current? The exposition of this question will settle two of the most important points in the pathology and treatment of cancer. We believe that horses, cows, and others of the lower mammalia, are frequently the subjects of malignant disease. A patient and extensive examination of the fluids of animals so circumstanced might lead to very interesting and important results.

At page 55, et seq., the author gives a very elaborate account of the minute structure of cancer. The statements are too long for extract, and do not admit of abridgement, but they are well deserving of very careful perusal. We shall now give a few extracts from the ample materials which Dr. Walshe has collected illustrative of the *statistics* of cancer.

The author adduces a table which shews—

"The inaccuracy of the commonly received opinion that the tendency to cancer" (malignant disease) "reaches its maximum between the thirty-fifth and fiftieth years. The mortality, on the contrary, goes on steadily increasing with each succeeding decade until the eightieth year; after that period the results are, from causes which it is needless to enumerate, liable to slight error, and may therefore be omitted in the general survey. It is worthy of note, that the mortality from this disease is lowest at the same period of life as the general mortality from all causes indiscriminately—namely, from the tenth to the fifteenth year. The law of mortality differs strikingly in the two sexes; the most general character of the difference being the greater regularity of increase with advancing age among males. Passing over the first twenty years, at which period the number of cases is probably too small to admit of very useful comparison, we find, it is true, that the number of deaths from æt. 30 to 40 is, in both sexes, about six times greater than from æt. 20 to 30; but here the similitude of increase ceases; in the next decennial period, the deaths among females augment more than sextuply, while the mortality of males only increases two and a half times."

The mean age at death, in the 1200 cases of cancer extracted from the registers by the author, was 57·2 years; in the male sex, 59·4 years, in the female 56·1 year. M. Marc Espine found that the mean age of 69 persons, cut off by cancer, in the canton of Geneva, in 1838, was 57·9 years; a re-

sult strikingly similar to that arrived at by the author.

Tables are then adduced which tend to prove that the female population of this country is destroyed to about two and a quarter times as great an extent by cancer as the male; a difference the more remarkable from the fact that the mean rate of mortality from all diseases is 20·8 per thousand among males, while it is 19·7 among females. A similar disparity is diplayed by the statistics of other nations.

The author quotes a large mass of interesting facts which lead him to the conclusion that certain regions of the globe are peculiarly exempt from the ravages of cancer. But he inquires—

"Is this exemption to be really referred to the special influence of climate, or to some concomitant condition? Wherever the disease is particularly rare, it may be remarked that a low state of civilization prevails; wherever social organization is of a highly perfect kind, there cancer flourishes."

Statements are adduced which tend to shew that rural populations are cut off by cancer in higher proportions than the inhabitants of towns. A curious fact connected with this question, is the difference of the proportions in which the two sexes fall victims to the disease in towns and in the country; the latter is more fatal to males, the former to females.

"The influence of concentration of population is evidently null; in the metropolis there are 25,758 individuals to a square mile; in the counties, only 222;—a ratio quite out of proportion with that of cancerous disease in the two localities."

A brief section on the *prophylactic treatment* of malignant disease, contains several judicious hints. In considering the *curative treatment* of these affections, the author reviews very fully most of the remedies which have from time to time been advocated as capable of relieving the suffering or checking the extension ofcancer. The following remarks upon the influence of the *iodide of arsenic*, will be read with interest:—

"Dr. A. T. Thomson, who introduced the medicine, supplied the earliest evidence of its favourable influence in cases of cancer. This evidence, though not altogether convincing in respect to the solvent powers of the remedy, was of such a kind as to dispose me strongly to give it a trial under favourable circumstances. I have since done so in several cases, from which (in the greater number, other but not equally energetic means, were employed simultaneously) I feel myself justified in drawing the following inferences as to its effects. It is to be premised that, in all these cases, the species of cancer treated was scirrhus in the non-ulcerated stage; that the breast was the part affected, and that the constitution had, in some, begun to suffer seriously. 1. Given in doses of one-sixteenth to one-twelfth of a grain twice daily, two hours after eating, the iodide of arsenic is well borne, and may be continued without risk for several months. 2. The system generally soon gives evidence of its action; unusual perspirations, with dryness of the fauces and alimentary canal, occur. Sometimes slight headache is complained of, but this is rare: and I have known most violent periodical headache, which had afflicted a lady for years, disappear while she was under the influence of the salt. 3. The pain of the tumor decreases in violence. 4. The size of the breast generally diminishes; and, if the tumor itself does not actually lessen in bulk, I have at least found that its enlargement, previously more or less active and apparent, becomes, as far as can be determined, suspended. There is difficulty in establishing the fact, on account of the change of dimensions of the breast generally. 5. The general health improves."

But one of the most interesting portions of this work will be found in the pages descriptive of the mode of application and remedial effects of Dr. Neil Arnott's admirable method of applying equable compression to tumors, by means of an air cushion and a spring; not a syllable of this interesting detail should escape the practical surgeon (p. 209, *et seq.*) The following passage is of great importance, as being the result of cautious experiment:—

"The effects produced by pressure," (in cases of non-ulcerated scirrhus, to which the instrument is principally applicable), "are removal of existing adhesions, total cessation of pain, disappearance of swelling in the communicating lymphatic glands, gradual reduction of bulky masses to small, hard, flat patches or rounded nodules (which appear to be, both locally and generally, perfectly innocuous), and in the most favourable cases, total removal of the morbid production. The relief of pain afforded by the instrument, is, without exaggeration, almost marvellous: this effect is ensured by the peculiar softness and other properties of the air cushion, the medium through which the pressure of the spring is transmitted to the surface. Females unable to obtain sleep even from enormous doses of laudanum,

cease instantaneously to suffer on its application, and sleep henceforth as though they were perfectly free from the disease."

Dr. Walsh relates a case in which a rather large tumor of the breast, presenting the characters of scirrhus, was entirely dispersed by the continued application of this instrument. It certainly appears probable, that, if the opinion be correct that the material of cancer is propagated from the original deposit, and that the development of internal cancer is frequently secondary only to the external disease, we may still encourage the hope that early removal of the original tumor may be followed by a complete cure, if proper means be at the same time employed to remove, by alteratives and other treatment, the constitutional vice upon which the predisposition to cancerous growth depends. But here one of the author's sensible aphorisms must be particularly borne in mind:—

"Of a given number of cancerous individuals, a considerably larger proportion will be saved from untimely death under the influence of well-devised and judiciously-sustained treatment, aided, if this become necessary, by extirpation performed at a comparatively late period, than will recover under the influence of the operation (unpreceded by methodised treatment) effected at the very earliest possible stage of local development."

The contributions to pathology contained in Dr. Walsh's treatise are of the most important description, affording materials which must eventually conduce very materially to the establishment of a true understanding of the nature of malignant diseases. We do not hesitate to assign to this work a place among the highest class of medical writings, and we are confident that its publication will add greatly to the author's reputation as an able and scientific pathologist.

## Proceedings of Societies.

### ROYAL MEDICAL & CHIRURGICAL SOCIETY.

March 24, 1846.

Dr. Chambers, F.R.S. K.C.H. President, in the Chair.

*Cases of Lateral or Partial Aneurism of the Heart: with Remarks.* By T. B. Peacock, M.D.

The first of these cases, which was the only one read in full to the Society, was that of a gentleman, 31 years of age, who was seized two months before his death with symptoms of hepatitis, followed by pleurisy of the right side, slight lividity of the face, œdema of the ankles, and dyspnœa. While labouring under these symptoms he suddenly experienced a sensation as of something having given way in the region of the heart, and became sick and faint: he rallied partially, but the dyspnœa became gradually more urgent, and he died on the fifth day from the period of his sudden seizure. On examination of the body there was found old thickening of the serous coat of the liver, a large accumulation in the right pleural cavity, and an unusual sac of sufficient size to have contained a hen's-egg at the apex of the left ventricle. The sudden sensation perceived five days before death was doubtless owing to the rupture of the aneurismal sac, as the cavity of the pericardium contained bloody fluid mixed with partially developed coagula: no distinct rent in the parietes of the sac was detected, but at the apex they were extremely thin. The termination by rupture of the sac, in cases of aneurism of the heart, is apparently rare: in eight published cases, this is stated to have occurred; but in all these, unlike that reported in the paper, death ensued immediately on the occurrence of the rupture. The formation of the aneurismal sac, it was thought, was probably owing to a previous attack of pericarditis.

The remaining portions of the paper were occupied as to the several modes of origin of the cardiac aneurisms, and the detail of illustrative cases, the report of a case of aneurism of the left auricle, and remarks on the diagnosis of these affections during life.

The author agreed with Dr. Thurnam in regarding the disease as most frequently of the true form. Adopting a modification of the views of Regnaud and Cruveilhier, he ascribed the formation of the true aneurismal sac to an altered condition of the endocardium, combined with the fibrous transformation of the muscular walls of the ventricle. The production of these changes he sided with Rokitansky in referring to chronic inflammation, and suggested that their frequency at the base, and more especially at the apex of the left ventricle, (the most frequent seats of aneurism,) might be owing to the thinness of the muscular substance in these situations, rendering it more liable to be implicated in the diseased changes affecting its serous envelopes.

Preparations and drawings of the true aneurismal sacs in their several stages of development were exhibited to the Society.

The production of the false form of cardiac aneurism by rupture or ulceration of the endocardium and internal portion of the

ventricular walls, or by the communication of the cavities of abscesses in the walls of the heart with the ventricle, the author stated to be rather doubtful than established. As illustrating the latter mode of origin, he detailed the particulars of a case in which an abscess formed in the walls of the auricles, and opened in the base of the left ventricle, and into the origin of the aorta, so that the blood penetrated into the cavity of the abscess. Had life been prolonged in this case it was inferred an aneurismal sac would have resulted, communicating with the left ventricle and aorta, and resembling the form of disease observed by Dr. Hope, and referred to by Dr. Thurnam, as the dissecting aneurism of the heart. The case was further interesting from the extreme rarity of abscesses or diffused suppuration in the walls of the heart.

In the case of aneurism of the left auricle, related in the paper, the dilatation, which was not of very great extent, occupied the appendix. Its cavity was lined by dense and laminated coagula. As in most of the recorded cases of aneurism of the left auricle, the auriculo-ventricular aperture was greatly contracted, and the sinus of the auricle dilated and its walls hypertrophied.

In the section of the paper devoted to the diagnosis of the cardiac aneurisms, the author, after alluding to the physical signs which would possibly be produced by the sacs, referred to the various causes which might occasion similar phenomena, and the great difficulty and doubt which would probably always attend an accurate discrimination of the affection during life.

Dr. Taylor observed, that he should be sorry to let Mr. Peacock's paper pass without bearing testimony to the care and accuracy with which it had evidently been prepared. The principal facts bore on the face of them the character of trustworthiness. The very merits of the paper were the more likely, however, to preclude much discussion upon it. He saw no reason to doubt the correctness of the views advocated by the author, and he thought it probable that the aneurism was an example of one of the less common consequences of inflammation of the serous membranes of the heart. He was not surprised that the disease had not been diagnosticated during life. He had as great a sense of the value of physical diagnosis as any one, and as much confidence in its indications in the mass of cases; but every day's experience confirmed him in the belief that it was absolutely impossible to discover the exact nature of the affection in all cases. We might almost as soon expect to foresee what word would result from the shaking together of a number of letters of the alphabet, as to be enabled to say, in all instances, what particular combination of morbid changes was the cause of the physical signs observed.

*Case of Excessive Secretion of the Ammonio-magnesian Phosphate by the Kidneys, with long-continued Vomiting.* By Golding Bird, A.M. M.D. F.R.S. Fellow of the Royal College of Physicians, and Assistant-Physician to Guy's Hospital.

This case was brought forward by the author in confirmation of the value of irritability of stomach as a diagnostic sign of calculous affection of the kidney. A lad, æt. 18, was admitted into Guy's Hospital, under Dr. Golding Bird's care, with all the symptoms of scirrhous pylorus, with the exception of non-existence of epigastric tumor. He had for four years been subject to constant irritability of stomach, and had never for 24 hours consecutively ceased from vomiting, never having retained a meal during the period alluded to, for more than an hour, often only for a few minutes. He was emaciated to a skeleton, and appeared actually sinking from exhaustion. There appeared (unless the vomiting were regarded as such) to be no demonstrable evidence of organic disease; the urine had a fœtid fish-like odour, was copious, limpid, rarely whey-like, of moderate specific gravity, and deposited crystals of triple phosphates in abundance. No hippuric acid or other abnormal element. The urine was alkaline on secretion, and always contained a large excess of the crystals alluded to. Treatment directed specially to the gastric symptoms, having failed to relieve in able hands, Dr. G. Bird prescribed strychnine in doses of gr. $\frac{1}{16}$. The result was the gradual diminution of the gastric irritability, the restoration of the acidity of the urine, and the disappearance of the phosphatic crystal. After a few weeks' continuance of the medicine the lad became convalescent, and actually fat. The author entered then into the question of the etiology of the disease, and expressed an opinion of its connection with functional derangement of the spinal and ganglionic nerves. In conclusion, he pressed upon the notice of the meeting the value of strychnine as an anti-emetic remedy.

Mr. Lloyd was of opinion, with Dr. Bird, that the secretion of phosphatic urine, in cases of disease of the spinal marrow, was by no means uncommon; indeed, it was a sign for which he generally looked in those cases, but this state of urine was not, in his experience, at all associated with loss of flesh, or with stomach disease, as noticed by Dr. Bird. He had frequently met with these cases, and he mentioned one in particular which had existed for several years, the chief

symptom being pain in the lower part of the spinal region; the disease was considered to be dependent on repeated attacks of lumbago. The urine, however, eventually became phosphatic, and the true nature of the case revealed. He was in the habit, in all such cases, of examining the urine by the aid of the microscope, and had always found phosphatic crystals present. He was not aware whether Dr. Bird, in his paper, had alluded to any other morbid products which were found in cases of this description; but he, Mr. Lloyd, had generally detected much mucus, or a great number of pus corpuscles, in phosphatic urine generally. He mentioned one case in which the urine was loaded with phosphates, and contained a great number of epithelial cells and other morbid products. He had never met with a similar example. In this case, also, the stomach did not sympathize with the morbid condition of the spine; the patient was still under treatment, but progressing towards a state of convalescence.

Dr. Golding Bird could not help thinking that two very distinct classes of cases had been confounded by Mr. Lloyd, both of which were characterized by the presence of phosphates in the urine, but the circumstances of each class of cases were widely different. One of these classes of cases, occurring frequently to the surgeon, consisted of those in which a diseased secretion was poured out from the mucous membrane of the bladder, as the result of chronic inflammation of that organ, stricture, enlargement of the prostate, or where, after mechanical injury to the spine, a more or less complete paraplegic condition had been induced. In these cases the alkaline and phosphatic state of the urine was produced from changes taking place in the fluid after it had reached the bladder. The urine in these cases was always ropy, and also frequently fœtid. If, in these cases, however, the bladder were carefully washed out, and the urine secreted during the next few minutes were examined, it would be usually found to be acid. The second class of cases were altogether of a different nature from these, which, from their dependenee on mechanical lesion, were strictly surgical. In the second class, from some antecedent cause, very likely having relation to the function of the spinal nerves, a low form of inflammation or irritation was set up in the kidneys, and the consequence was, a secretion of alkaline urine, which urine contained an excess of phosphates. Dr. Bird believed that the mechanical irritation of the tubular structure of the kidneys by the phosphatic crystals was the immediate exciting eause of the irritation of the stomach, or of the vomiting.

Dr. Taylor thought that the distinction to which Dr. Golding Bird had just referred was an important one—viz. that between urine which was secreted in an alkaline condition, and urine which had became alkaline only in consequence of chemical changes taking place in it after its secretion. This distinction had been first drawn, or, at least, had been especially insisted on, by Rayer, who considered that urine, which is secreted alkaline, is an important symptom of simple chronic nephritis. Dr. Taylor had had the opportunity of satisfying himself of the fact that the urine is in some cases alkaline when secreted, having made the experiment, referred to by Dr. Bird, of washing out the bladder with water, and collecting the urine in a very short time afterwards. In more than one of these cases he had also had the opportunity of ascertaining, after death, that the kidneys were inflamed, and there was no other appearance to account for the alkaline urine. Whether this class of cases, however, is attended with more disorder of the stomach than other cases in which the kidneys are diseased, he thought was another question. Nausea and vomiting are well known to be common symptoms of various morbid conditions of the kidneys. In the cases of alkaline urine, observed by Dr. Taylor, the sickness had not been more marked than in other renal affections. The same thing seems to be implied, if it be not directly stated, in the work of Rayer. The great reason why Rayer insists so much upon the importance of alkaline urine as a symptom of nephritis is this, that very often there is no other obvious sign of the disease. In such cases the inflammation runs a very insidious course. A man complains of some languor, and looks a little out of health, and he may or may not have some slight aching about the loins, and these may be the only symptoms of the disease except the alkaline urine.

Dr. Bird could not believe that the mere secretion of alkaline urine, when there was no irritation from a calculus, was sufficient to produce vomiting. He referred to Guy's Hospital Reports, which contained a paper by Dr. Barlow, as evidence in favour of this opinion.

*An Account of some experiments made with a Concentrated Alcoholic Extract of Stavesacre for the Cure of Itch.* By Thomas H. Burgess, M.D.

The author states he has recently had an opportunity of assisting (at the Hospital of St. Louis at Paris) at some interesting researches into the history of the *acarus scabiei*, and the treatment of the disease which it produces. Several patients were removed from the wards of the hospital, by permission of M. Cazenave, to the amphitheatre, where M. Bourgignon conducted his experimental researches. The hands of he patients, after being thoroughly washed

with soap and water, were examined under the microscope, and one patient was selected in whom the disease seemed to be most pronounced. Several acari were removed from each hand, and when examined by the microscope seemed active and vigorous. The hands of this patient were then immersed in two vases filled with a strong alcoholic extract of stavesacre, and retained for half an hour. The hands were now examined by the microscope, and several acari removed. In this instance the remedy was not entirely effectual, as some of the acari were still alive. The remedy was again applied for half an hour, when not a single living acarus was discovered; they were examined under the microscope, and showed no signs of life. On the following day the same experiment was repeated on another patient, using the same precautions, and with the same success, for on examining the acari, not the least sign of life was discovered in any. The patient was examined again on the following morning—he said he was entirely free from itching; the skin was paler, and there was no living acarus found in the parts to which the extract had been applied. The author states he has satisfied himself that it is not the alcohol that destroys the acarus, for when used without medication it has not succeeded. He concludes by referring to the advantages presented by this mode of treating itch over the ordinary treatment, viz. rapidity and cleanliness.

Mr. Lloyd cured the itch by the lotion, consisting of an ounce of sulphate of copper to a pint of water; this he applied after washing off the scabs; it was an almost certain cure: he employed it in private and public practice.

Dr. Ogier Ward treated scabies by a simple lotion of the iodide of potassium, a single washing with which, in some instances, had completely eradicated the disease. The treatment of this affection was by no means difficult. To insure complete success, he applied the sulphur ointment at night, and the lotion during the day. It usually effected a cure in seven days. The lotion consisted of one drachm of the iodide to eight or sixteen ounces of fluid, according to the delicacy of the cutaneous surface.

The next meeting will be held on Tuesday, the 14th April;—this evening three weeks.

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## WESTMINSTER MEDICAL SOCIETY.

March 21, 1846.

Dr. Sayer, President.

### *Abscess of the Brain.*

Dr. W. Merriman read an account of abscess of the brain, which had lately occurred to him at the Westminster General Dispensary. A woman, aged 26, of scrofulous diathesis, had measles when a child, and suffered from discharge from the right ear ever since. On January, 1826, she first complained of ear-ache on that side, which became of a most intense deacription, and defied all remedial art. She usually lay in a half-sleeping condition, but was perfectly sensible until about thirty hours before her death, screaming at times from the violence of the pain, which extended over the entire right half of the head. At this time there was no discharge from the ear, or so trifling as to be of no consequence. The jaws became almost fixed from the pain caused in opening them. On one occasion, her leg was drawn up several times in quick succession; but there was no other appearance of convulsions. The day previous to her decease, Dr. Merriman was informed that she had become insensible; but she immediately put out her tongue, and turned her head over, that he might examine her ear, on his requesting her to do so. She also spoke to her friends the following morning, but after that sunk into complete coma. Death occurred that evening, Feb. 18th. On examination, a quantity of offensive pus came from the head, while sawing through the temporal bone; this was found to proceed from a large abscess within the substance of the brain, occupying the whole upper part of the right hemishere. (Dr. Merriman regretted much that an accident had prevented his bringing a model of the appearances with him this evening; but promised to do so at the next meeting.) Close by the temporal bone, it approached very near the surface, and had been opened by the saw. The dura mater was separated from the bone over the petrous portion, and side of the temporal bone, was of a darkish colour, and had a layer of coagulable lymph surrounding the diseased portion, poured out between it and the bone principally, and less so on the internal aspect, when in contact with the arachnoid. The petrous portion of the bone being examined was found to be extensively carious, the mastoid cells being full of dark pus globules, epithelial cells, &c.; the bone was extremely thin, and several apertures in it were noticed. The lateral sinus also presented traces of inflammation; but no pus or coagula were found therein. Dr. Merriman argued, that in this case the abscess was produced by transmission of inflammation from the bone through the membranes to the brain itself; and brought forward, in confirmation, the existence of headaches, and her being very forgetful and giddy at times during the last twelve or sixteen months, and also the frequent connexion of abscess of the brain with disease of the temporal or ethmoidal bone.

In the discussion which ensued, great difference of opinion existed among the members as to whether the disease of the ear, and the abscess in the substance of the brain, had any direct connexion, in the relation of cause and effect, to each other; and also as to the period of formation of the brain abscess.

Mr. HANCOCK related the following case:—He was sent for, on the 1st of January, 1846, to see Miss T——, of the Strand, aged eighteen, who, he was informed, was suffering from a disease of the ear. He found her sitting in the parlour, complaining of intense agony in the right ear and side of the head, so severe that she was obliged to support her head by both her hands, her elbows resting on the table. He was informed that she had been subject to discharge from that ear, at intervals, ever since she was two years of age; but that she had been free from that annoyance for some few weeks. As she complained very much of pain in her teeth on that side, he was induced to examine her mouth, and found one of her teeth so much decayed, that he advised its instant removal; which was subsequently effected, to her relief as to the pain in her mouth. He carefully endeavoured to ascertain whether there were any symptoms of disease of the brain, but could not discover any beyond the pain and sensation of weight in the head. She was perfectly sensible, could converse with her friends, and would answer any question he put to her with the greatest readiness. Neither her arms nor lower extremities were affected; both sides of her face were natural, and she had perfect control over her sphincter muscles up to the period of her death. He would not take up the time of the Society by detailing the treatment employed, further than by stating, that on the second day she complained so much of throbbing in the ear, that he was induced to introduce a probe to ascertain the state of parts, and passed it nearly two inches into the organ without meeting with any obstacle. However, shortly after he left, he was informed that she felt something yield, which sensation was followed by a copious discharge of matter from the ear, to the extent, as the friends informed me, of nearly two ounces, with decided relief. He saw her three times a-day until her death, which took place at about one o'clock on the morning of the 4th; and he would observe, that although he carefully watched for any symptom of paralysis, he could not detect any, even at his last visit, about three hours before she died.

On the next day but one, he examined the body, assisted by Mr. Echlin and Mr. Nicolle; and on removing the brain, he found corresponding to the petrous portion of the temporal bone, an ulcer of the dura mater, about the size of a sixpence, this ulcer being evidently produced by some sharp processes of bone growing out from the petrous portion, the condition of which appeared to be perfectly healthy. Upon cutting into the right hemisphere of the cerebrum, they discovered a very large abscess, implicating nearly the whole of the middle and extending into the anterior and posterior lobes of that hemisphere, the abscess being contained in a very tough and thickened cyst. There was no communication between the cerebral abscess and the internal ear, the petrous portion, as he had observed, remaining to all appearance healthy. They next examined the internal ear, but could discover no signs of abscess in that situation; the lining membrane was thickened, but there was no trace of any collection of matter having been found within that cavity.

## Medical Trials and Inquests.

### OXFORD CIRCUIT.

Reading, March 4, 1846.

Before MR. BARON PLATT.

*Trial for murder.—Evidence from blood-stains.—Wounds in different parts of the body — proof of homicide.—Conviction on circumstantial evidence.*

WILLIAM SPICER, aged 48, was arraigned on the charge of having, on the 8th of August last, wilfully murdered his wife, Elizabeth Spicer, in Howard Street, Reading. Mr. Tyrwhitt and Mr. Bros were counsel for the prosecution, and Mr. H. S. Selfe and Mr. Gray conducted the defence. The prisoner pleaded Not Guilty.

It appeared in evidence, that the deceased, who was nearly 60 years of age, had a small property of £195 in the funds. She was married to the prisoner in November 1844, and lived with him up to the time of the fatal event; so that they had been united but a very few months. In April 1845, the prisoner and his wife went to London, and the stock was transferred by them. The real effect of that transfer, though little expected either by himself or her, was, that the husband might, on proving that Elizabeth Spicer was his wife, have possessed himself of the property. That, however, was known but to few, and the impression on both their minds, and clearly on his, was, that the money could not be arrived at without the hand-writing of both. Angry words passed between the parties on many occasisns, respecting money matters, and especially on one occasion, about seven weeks before the alleged murder took place. It was also shewn that a contused eye was given the deceased by the prisoner; the account given by him of it being that it was caused by aecident. On the 8th of August, 1845, the deceased was in her usual health

and spirits, and about her usual vocation, having been engaged in washing the linen. The last time she was seen alive was between eleven and twelve o'clock on that day, at which time she went into a neighbour's house, and conversed with the persons she met there. About half-past twelve, and before one o'clock, a person named Staniford, residing in the next house, heard footsteps in the prisoner's house, as of some one pushing against the wall, and very shortly afterwards a terrible fall, which, from his (Staniford's) knowledge of the premises, he apprehended was a fall down the cellar stairs; and a person living in the house on the other side, who was also alarmed at the great noise, distinctly saw Spicer standing in a narrow passage looking towards the cellar stairs, which were in the middle of the house. Some one was afterwards heard to pass into the garden behind, and then back again through the house, and out at the front door. A few minutes before one o'clock, he was met in the street by an acquaintance, who asked him how his wife was; to which he replied, "She was very poorly—very giddy—and he was afraid she would fall down and kill herself." The prisoner also used similar expressions to other persons during that afternoon. Immediately afterwards, he was seen to enter his workshop, (which was at the distance of seven or eight minutes' walk from his home), and remained there till about ten minutes past four. A few minutes after that, he mentioned to a person that "he had been home to tea, and could not find his wife, and he supposed she was gone out." At about a quarter to five o'clock, two persons called at the house for the purpose of seeing deceased, when the prisoner told them that his wife had just stepped out. About twenty minutes before six he returned to his work, and again came home about eight o'clock. Shortly after this, he inquired of a neighbour if he had seen any thing of his wife that day, and stated that she was not at home, and he could not think where she was. The neighbour said—"It isn't her that fell down stairs?"—alluding to the noise he heard at dinner-time. The prisoner said, "I don't know; I'll go and see." He instantly ran into his house, and quickly returned, saying, "My dear wife is dead." This witness and another then went into the prisoner's house; and at the bottom of the cellar stairs, which were rather steep, and about nine feet in descent, found the body of Mrs. Spicer, quite dead. She was lying on her right shoulder, and the right side of her face was jammed against the wall; her neck was doubled against the wall; her dress was lying smoothly on the body; there was a false front of hair, and a cap, lying in a pool of blood near the body, (Mr. Hooper, the surgeon, states that this blood was both arterial and venous), close to the side of the head. Some bread and a bread-tray were lying on the floor of the cellar; her left temple was bloody. After the discovery of the body, the prisoner admitted that he might have been at home when the deceased fell, but he was in the back premises at this time, and thought he heard something; that he afterwards came through the house and went out.

Subsequently there was found in the cellar, stained with recent blood, an oblong stone, or pebble; it lay among some shavings at a distance from the body, and there was no blood near it. One end only of the stone was bloody, and had a projecting point, which was clean. There was a mark of blood on the door-post, and spots of blood on the wall near the *top* of the stairs, about four feet above their level, as if sprinkled on it, and a smeared mark lower down. There were also vestiges of blood-stains on the stairs, which had apparently been partly washed out. A pocket-handkerchief, stained with blood, and with grit adhering to it, was found secreted under a jug in the prisoner's cupboard at the work-shop. This stain (the counsel stated) corresponded with a smear on the stairs, as if caused by the action of wiping up the blood. Two aprons belonging to the prisoner, with marks on them which were afterwards proved to be blood-stains, were also found at the work-shop.

Mr. F. B. Hooper, surgeon, residing in King Street, examined:—On Friday, the 8th of August, he was sent for, and went to the prisoner's house about nine, P.M. He immediately went down into the cellar, and there found the body of a woman lying on her back, in a sheet. She was quite dead, and the body was quite cold and rigid. At that time of the year, rigidity would not come on before from eight to ten, or sixteen or twenty hours after death. He saw some blood on the bottom of the stairs and on the floor; it was clotted, and not so fluid as if freshly shed. The hands of the deceased were clenched, and the arms bent up towards the head. They were bloody outside, but not in the palms; and there was long dark hair, like that of a woman, between her fingers. A cap and a false front of hair were lying in the blood at the bottom of the stairs. Her eyelids were swollen, more particularly the right one, and had a dark appearance, as if of extravasated blood under the skin. There was, on the right temple, a contused wound, an inch long, just behind the eye; and a similar one, rather longer, on the other temple. The wounds extended to the bone, the edge of which was laid bare. The temporal artery was not wounded, though one of its branches had been injured.

The stone which had been found in the cellar of the prisoner's house was here produced. It was a large flint stone; and, in its shape, colour, and dimensions, resembled a large-sized kidney potato.

Mr. Hooper resumed his evidence.—He was of opinion that the stone produced was calculated to produce the wounds he saw on the temples of the deceased. On the following day he made a *post-mortem* examination of the body; about two-thirds of an inch behind the wounds on the temples, he observed a small bruise. The scalp was slightly penetrated at that part. He made an incision on the scalp, when a quantity of blood was found poured out under it. There was a fracture of the parietal bone on the right side of the head, behind the ear, extending a little forward, and then to the top of the head; this fracture extended to the base of the skull. On examination, he found the brain was torn underneath the fracture; there was great congestion of blood in the brain. This fracture he considered to have been produced by the fall down stairs. There were wounds from which blood might have spirted out, more particularly on the right temple, where there was an injury of a branch of the temporal artery; — arterial vessels, when ruptured, would throw the blood out. He then proceeded to examine the vertebræ of the neck, and found the second bone fractured and the spinal marrow torn through: that injury was of itself quite sufficient to produce death. The stomach contained a small quantity of dark-coloured mucus, but no aliment whatever. If deceased had taken food that day, shortly before her death, it would have remained in her stomach; as the digestive powers ceased with life. A healthy person would digest food in about four hours; there was no smell of spirits in the stomach. He had examined both the wounds on the temples and the staircase very closely, and there were no projections on the stairs that could have produced those wounds by a fall on the temples. He saw the pocket-handkerchief produced by Mr. Houlton, superintendent of police; there were spots of blood upon it, and the parts that were cut out had spots of blood upon them. On one of the aprons he likewise observed stains of blood. On the left hand side of the wall, near the top of the stairs, there were marks of blood, as if drops had been spirted out and fallen downwards. On Sunday morning he observed marks of blood on the post of the door of the cellar-stairs: it was a smeared mark.

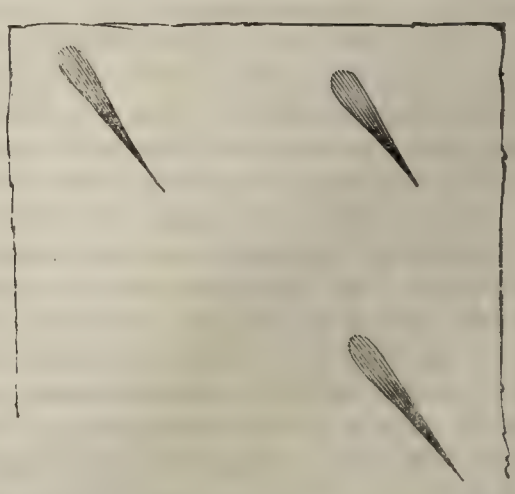
By the Judge: — The body had been removed through the doorway; it was wrapped up in a sheet, and the persons were very careful that it should touch nothing in its ascent; there was no blood on the outside of the sheet to cause a smear.

Mr. Hooper continued:—He observed spots of blood on the wall on the evening he went to the house. On Friday night, when the body was in the cellar, he observed on the top of the landing-stair, and on the fourth stair, marks as of blood partly effaced, being rather cleaner than the remainder of the stairs. He saw the handkerchief on the 13th of August; it was damp and gritty. He looked at the stairs for the purpose of discovering a projection, or something that might have produced the wounds on the temples of the deceased, and could not observe any thing that would have occasioned them.

Cross-examined by Mr. Selfe:—He was of opinion thut the fracture of the neck was the direct cause of death; the fracture of the skull was sufficient to have produced death; neither of the two contused wounds on the temples caused death, though either of them would have produced insensibility; the blood on the wall of the stairs proceeded from a person placed above the level. He was of opinion that both of the wounds on the temples had been inflicted by some instrument. Both of the aprons were blood-stained; blood on aprons of that description would have turned of a brown colour in the course of a day or two.

James Gutteridge, a constable, stated, that he made an examination on Monday morning, and found a stone, which had been produced in court; it was six or seven inches from the wall in the cellar. That is the same mark of blood that is now on it. There was no trickling of blood from the stairs which could have touched the stone. It was impossible the smear of blood on the post could have been made by the body when carried up, for he noticed it while the body was still in the cellar.

Mr. Alfred S. Taylor examined:—He is a lecturer on Medical Jurisprudence and Chemistry at Guy's Hospital. He examined, on the 19th of August last, the stains on a piece of brick, some pieces of linen, and some wood, and was first struck with the remarkable appearance of the spots on the brick.



Appearance of spots of blood on the brick.

He judged from the appearance, that they had proceeded from blood spirting from a wounded artery. The person from whom it came was alive. The blood which issued from small arteries always came in jerks, and an artery never bled after death. The person from whom it came, he judged, was above the level of the spots. The artery must have been very near the brick, because the spots are in an oblique line; indicating that the action of the heart overcame in some degree the power of gravitation on the drops. He scraped off some spots into a watch-glass, and tried the tests for blood, all of which confirmed his suspicions that they were blood-stains. He examined, by the same process, the spots on the wood, those on the two aprons, and on a red silk handkerchief, and they were all proved to consist of blood. One of the aprons had some stains on the inside, and some on the outside, as if the thumb and finger had been wiped on it. The marks on the red silk handkerchief appeared to be owing to diluted blood. The handkerchief might have been steeped in blood and washed, or used when wet to wipe off blood. He quite agreed with what Mr. Hooper had said respecting the origin of the wounds and the cause of death.

Two relatives of the deceased stated that she was never subject to fits.

The counsel for the prisoner rested his defence mainly upon the probability that the following were the circumstances under which the unfortunate woman came by her death. He conjectured that the prisoner and his wife were having or preparing their dinner. This stone, about which so much had been heard (certainly a most remarkable one), was either kept on the mantle-piece, it might have been used to keep one of the doors open, which was no uncommon occurrence among people of that class. Now, he would ask the jury, what was a more likely thing, and yet perfectly reconcilable with all the evidence, than that some conversation had taken place between them—that the prisoner, who was perhaps rather an ill-tempered man, from some sudden provocation, seized any thing within his reach (and not unlikely this stone), and struck the unfortunate woman a blow on the head, which laid her prostrate, and rendered her insensible for the moment? horror-stricken, and in a state of trepidation at the effect produced, he takes the body, which he conceived to be dead, and with a view to give a colouring to the transaction, which might screen him from the consequences of his momentary passion, throws her down stairs, where her body was afterwards found. This theory would explain the blood on the wall as well as on the stairs: it would, in some measure, account for the stone which was found under the cellar stairs, a little distance from the wall. That might have been at the bottom in the first instance, and the number of persons going down there may have kicked it to the spot where it was afterwards picked up.

In summing up, Baron Platt observed that if the theory propounded by the counsel for the prisoner was correct, it was rightly argued that the crime must be reduced to manslaughter. It was, however, for the jury to say whether they believed that theory, and whether it was supported by the evidence of the witnesses. It was never suggested before the coroner, or before the magistrates: the theory was new at present, and it was a matter which required their consideration. The jury, after a deliberation of ten minutes, returned a verdict of—"*Guilty of Wilful Murder.*"

Copy of Mr. Alfred S. Taylor's notes of his examination of the blood-stained articles referred to in the above case:—

1.—An apron, which was covered with numerous streaks of red or dusky colour, from some dye. At the front and back part were many patches of a red-brown colour, as if from blood, evidently presenting the appearance as if the stains had been smeared loosely over the surface, in the wiping of the hands or fingers.

The stuff, which was of a very coarse fabric (linen), was cut into many small slips in the parts particularly marked by the red-brown stains, and these were placed in a small quantity of distilled water. A pale reddish-brown solution was obtained in about an hour. (*a*). One portion, boiled, became brown and turbid, yielding a slight coagulum. (*b*). A second, treated with nitric acid, was equally coagulated, and acquired a muddy-brown colour. (*c*). A third, when treated with diluted solution of ammonia, had its colour somewhat heightened, but not changed, either to a blue, crimson or green tint, like all other red colouring matters soluble in water, except blood.

These facts showed clearly that the stains on the apron (No. 1) were due to blood.*

* August 25, 1845.—A portion of the dyed or coloured part of the apron, free from blood, having been cut off, and digested in water, gave, after six days' maceration, a light pink-red solution, not possessing the colour of blood.

(*a*). The solution was turned of a crimson colour by ammonia and potash.

(*b*). The colour remained unchanged on boiling.

(*c*). The colour was turned of a yellowish tint by nitric acid.

Hence, either madder, Brazil-wood, or log-wood, had produced these stains, probably the latter.

2.—Another apron, of the same coarse fabric, but unmarked by any dye, spotted, although to a less degree than No. 1, with similar red-brown spots, apparently of blood. The spots were irregularly scattered over it, as if from the hasty wiping of the fingers. Similar stains were on both sides of the apron, inside and out.

Portions of this apron being cut out, and similarly treated, in a very small tube, with a small quantity of distilled water, yielded, in about half an hour, a decidedly red-coloured solution, like that produced from old blood stains. Divided into three portions, and treated—1, by boiling it (heat); 2, by nitric acid; and 3, by ammonia; it gave results like No. 1, evidently showing that the stains were due to blood. The results were more decided than in the case of No. 1, owing to a smaller quantity of water having been used.

3.—A silk handkerchief, dyed red with drab patches, somewhat stiffened with stains of a reddish colour (like diluted blood), on the lighter portions; and of a darker red colour on the portions dyed red.

Portions of the handkerchief were cut out, and macerated in water in a small tube. A deep blood-red solution was speedily obtained, the colour detaching itself more readily from the thin fibre of the silk than from the coarse linen. In the dyed part the silk was just as red after the experiment as before, showing that the colour of the liquid was not owing to any of the dye having been dissolved out by water. This red coloured liquid gave, in the most striking manner, all the chemical results obtained with a solution of recent blood, leaving no doubt that the stains were here due to blood, probably somewhat diluted with water, from the diffused appearance and slight stiffness in the stained portions of the handkerchief.

The tests employed in this case were—1, heat; 2, nitric acid; 3, ammonia; and the results perfectly agreed with the action of these re-agents on a solution of blood,—and entirely differed from their action upon other red colouring matters, not due to blood.

A portion cut out from part of the handkerchief which was *dyed red*, but not stained or stiffened with any liquor, was digested in water for two hours, but no colour was imparted to the water. When the stiffened parts were thus treated, the water acquired a blood-red colour in ten minutes. This proved that the colour acquired by water in this case was not owing to the dye.

4. A brick, covered on its front with a layer of white plaster. On the plaster, about the centre, were six well-defined spots of a long oval or elliptical form, some half an inch, and others three quarters of an inch in length. These spots passed obliquely from above downwards, and diagonally across the face of the brick. They were of a bright reddish-brown colour, pale at the upper and wider part, but of a deep-red brown colour, and glossy at the lower or pointed portion. They terminated in a fine point—one, however, ended in a kind of globule. They all presented the shining lustre of *recently* dried blood.

In order that they should have assumed this form, indicating as it does the trickling or flowing of a thick liquid thrown out with some impetus as from a jet, they must have fallen on the wall *sideways* and not in front; and judging from the height of the brick from the ground, the wounded vessel pouring out the blood must have been *above* the level of the brick.* From the colour, it was impossible to say whether the stains were occasioned by arterial or venous blood; but, from their appearance in well-defined detached spots, thrown out obviously with impetus, I should consider that they had been produced by a wounded artery.

The spots of blood on the brick had been thrown out from a living vessel, the fibrine having settled into a solid coagulum, with the colouring matter, at the lower part of each drop.

*Analysis.*—The plaster was first examined. This was found to be composed entirely of carbonate of lime without any caustic lime. There was therefore nothing in the plaster to interfere with the solubility of the stains in water, if they were due to blood. For this purpose, six stains were scraped into a clean watch-glass, and a portion of distilled water poured on the powder, which was necessarily mixed with a little plaster. Some of this liquid, which was poured off clear in half an hour, had acquired a decidedly reddish colour like diluted blood. When boiled, it became coagulated, a turbid brown coagulum being precipitated. When another portion was treated with nitric acid, the whole of the plaster was dissolved, the red colour destroyed, and a brown turbid coagulum formed. Ammonia did not alter the red colour.

5. On a piece of wood, there was a slight film of a reddish brown colour, like the spots on the brick, and with the same shining lustre of recent blood. This was placed on a piece of plate glass with a few drops of water, and a reddish-brown solution obtained, which was coagulated, destroyed, and turned brown by a heat of 212° on boiling the liquid.

From all these results, I do not hesitate to declare that the whole of the stains on the articles examined by me were owing to blood. ALFRED S. TAYLOR.

Chemical Laboratory, Guy's Hospital,
August 19th, 1845.

N.B. These experiments were per-

* Stains artificially produced by blood projected obliquely from above, assumed exactly the same character. With watery or uncoagulable li-

formed in the presence of Mr. Hooper, Surgeon, and Mr. Houlton, Superintendent of the Police of Reading.

*** This case presents many subjects for reflection. 1. The great weight attached to circumstantial evidence, where circumstances whether medical or moral are carefully observed. 2. The importance of a medical practitioner bestowing close attention, when called to a person found dead, upon the different kinds of wounds on the body,—whether they involve arteries or veins,—whether all could have proceeded at one time from the same cause, or at different times from different causes,—which were likely to cause death, and which not.—3. The evidence capable of being furnished by stains of blood on furniture or articles of dress, when the form, direction, and physical and chemical characters of the stains have been accurately noted. 4. That when blood-stains are on dyed articles, negative evidence should be procured by examining a dyed portion of the stuff, upon which blood has not been effused. 5. The facts connected with the rigidity and cooling of the body, and the period of time required for the development of these conditions. The fall of the deceased was heard about half-past 12 o'clock;—her body, when seen at nine o'clock, was quite cold and rigid. The inference was that she had been dead for the whole of this period; even on this assumption, the cooling and rigidity took place more rapidly than usual, although it should be observed the deceased was a small person and advanced in life. 6. An examination of the stomach and its contents should be made in all such cases. The value of the observation here made by Mr. Hooper, as negative evidence, was seen in the fact, that one statement by the prisoner, could not be true; namely, that it was *after* his wife and himself had had dinner that he heard the fall. But there was not a trace of food in the stomach, and some would certainly have been found had the deceased met her death immediately after having eaten her dinner. In a case of murder from wounds, it may often appear unnecessary to pay particular attention to the stomach or its contents; but the evidence on this trial shows that the observation may have some incidental importance.

The facts of this case fulfilled what our law properly demands for a conviction on *circumstantial* evidence. They cannot be explained by any hypothesis except that which implies the guilt of the prisoner. The injuries on the person of the deceased—the stains of blood on the wall and stone, could not be referred to any form of accident or suicide. This was so strongly felt by the prisoner's counsel, that he endeavoured to extricate him on a plea of manslaughter; but this plea was inconsistent with many of the facts proved at the trial. In a confession recently made by the prisoner, before his execution he stated that he had had a quarrel with his wife, and struck her on the head with a poker. Finding that she was rendered insensible by the blow he took her up in his arms and threw her down the cellar stairs. This confession is also inconsistent with the facts. The probability is, that the deceased, while coming up and near the top of the stairs, was struck one or more blows on each temple with the stone found in the cellar, and that she was then precipitated headlong backwards down the stairs, the body assuming the singular attitude in which it was discovered.

quids the stain is longer and often terminates after running in a narrow stream in a thick globule or oval patch. This happens also with dead blood, *i. e.* after it has coagulated and been beaten up into a red liquid.

## Correspondence.

### ON A NEW COMPOUND OF GALLIC ACID, OXIDE OF LEAD, AND POTASH.

SIR,—It is well known that gallic acid is capable of forming salts with the alkalies potash, soda, and ammonia; and that these salts, though colourless while out of the contact of air, speedily become brown on exposure to it, owing to the absorption of oxygen. Chemists are also aware, that, upon adding a solution of gallic acid to lime-water, a compound is produced of a greenish-purple colour, which, like the gallates of the alkalies, quickly appropriates oxygen from the atmosphere, and passes through a great variety of tints. Having considered the above facts so far as they relate to the absorption of atmospheric oxygen by the salts just specified, and the concomitant changes of colour which these undergo, to possess great interest, I was in consequence induced, a short time since, to make a few experiments in prosecution of the chemistry of the gallates; and, in the course of these experiments, I discovered that the soluble preparations of lead, when treated with gallic acid and an alkali, presented some very curious and beautiful phenomena, which it is the object of this communication briefly to describe. I found, then, upon precipitating the base of either the acetate or nitrate of lead by a solution of potassa, and afterwards adding a few drops of saturated solution of gallic acid to the fluid, that the oxide thrown down almost immediately assumed a pink hue, which, by the absorption of the oxygen from the air, speedily became crimson, the latter colour being remarkably deep and shining. This crimson compound is per-

fectly soluble in an excess of the alkali, though the clear solution is not, as we might suppose, of so rich a tint as the solid precipitate; but, like the latter, its colour is rapidly heightened on exposure to the atmosphere. The same changes are produced by throwing down the oxide of lead from either of the above mentioned salts by ammonia; but the colours are, in this case, less bright and more fugitive than when potassa is employed as the precipitant, the latter circumstance being probably attributable to the volatility of the former alkali. I also find, that soda will give rise to effects precisely similar to those produced by the employment of either potassa or ammonia. The coloured compounds described are readily decomposed by nitric, hydrochloric, and other strong acids, and they are also destroyed by a very slight elevation of temperature, as well as by exposure for a few hours to the atmosphere; when, however, they have been deprived of colour by the action of an acid, this colour may be, in a great degree, restored, by adding more of the alkaline solution to the fluid so as to neutralize the acid.

The curious phenomena above detailed do not appear to me to admit of a very satisfactory explanation, inasmuch as the coloured compounds described cannot be regarded as simple combinations of gallic acid with the protoxide of lead, though when I commenced my experiments I was rather disposed to entertain that opinion: for, if the oxide be precipitated by potassa from a soluble salt of lead, and afterwards washed so as to free it from all traces of the alkaline solution, we shall find, upon adding the gallic acid, that not the slightest change of colour is produced, though upon pouring a little of the potassa solution into the supernatant fluid, the peculiar pink colour, to which I have just adverted, is immediately exhibited by the precipitate. Gallic acid, oxide of lead, and an alkali, seem, then, to be *essential* constituents of these coloured compounds; and, such being the case, we might perhaps be induced to regard them as *double gallates* of the oxide of lead and an alkali; but then the question arises, what becomes of the oxygen absorbed from the atmosphere, and which, as we have seen, contributes so much to heighten the colour of these combinations? Now, did we not know that the protoxide is the only oxide of lead which forms salts with acids, we might, perhaps, reasonably conclude that these assumed double gallates are converted into double gallates of the *peroxide* of lead and an alkali, by the union of the protoxide which the former contain with the atmospheric oxygen. This, however, is a supposition which, for the reason just assigned, we are not justified in entertaining, though, if it be abandoned, I cannot myself at all understand the modus agendi of the absorbed oxygen.

In concluding this communication, I would suggest, with a view to the practical application of the above facts, the joint employment of gallic acid and an alkali as a test for lead; my own experiments warranting me in believing that not only would all the soluble salts of that metal present the same characters when treated in the manner I have described, but also that very minute quantities of them might be thus detected; for, if we take a single drop of a very weak solution of the acetate of lead, and test it with gallic acid and potassa, we shall find that the pink colour is immediately displayed, which becomes considerably deeper on exposure for a short time to the air. Indeed, I have obtained distinct indications of the colour even when only a drop of a saturated solution of the acetate has been diffused in more than half an ounce of distilled water. At least, this test might, I conceive, be found useful in conjunction with iodide of potassium, sulphuretted hydrogen, and the other reagents commonly employed for the detection of lead.

The phenomena which I have here described have not, I believe, been hitherto noticed by chemical writers, never having myself met with the least allusion to them in the works which I have consulted; indeed, the only combination of gallic acid and lead mentioned by Brande (whose manual is justly considered one of our best text-books), is the simple gallate, formed by adding the acid to a solution of the nitrate or acetate of the metal, and which differs greatly, at least in its physical characters, from the compounds above described, being not of a pink, variable colour, but white and permanent.

I have the honour to remain, sir,

Your most obedient servant,

W. H. Ollby.

Old Kent Road, March 4, 1846.

*** The facts mentioned by our correspondent are very singular, and we believe have not hitherto been observed by chemists. The colour acquired by the mixture of gallic acid, oxide of lead, and potash, is wholly different from that produced by the addition of gallic acid to potash alone.

### CASE OF CHRONIC BRONCHITIS COMPLICATED WITH DROPSY AND PARALYSIS.

Sir,—I beg to forward the following case:—

Widow L——, district patient, aged 43, poor and weakly, was first visited on Sunday, the 7th of December last, and was found to be labouring under extensive chronic bronchitis and general dropsy of three months' duration. She was directed to take an ounce of cream of tartar immediately; and

after the bowels had been moved, a drachm of the sweet spirits of nitre in water three times daily; to wear flannel next the skin; and to sponge the front and sides of the chest daily with the vinegar and turpentine liniment of Stokes. On the night of the Tuesday following, and before she had been in any degree relieved by the medicines prescribed, she fell down in a fit. Being visited immediately after, she was found to have paralysis of the left side, the power of motion being less in the arm than in the leg; her speech also was very imperfect, she spoke so as to be understood with difficulty; the tongue inclined to one side of the mouth, when protruded; and she complained of a pain over the right temple: pulse weak and slow. Believing the paralysis to be occasioned by the effusion of serum on the brain, or, in other words, to the brain suddenly becoming dropsical, like the rest of the body, I directed the head to be shaved, and a large blister to be put over the occiput, while the dose of the sweet spirits of nitre was increased to a drachm every third hour. This was continued for nearly a week with some relief to the dropsical symptoms; the bowels being at the same time kept regular with castor oil.

But, in the meantime, the bronchitis got worse; large mucous accumulations collected in the bronchi, which the patient could not expectorate without great difficulty; and the breathing became short and laborious, with a loud sonorous râle. This symptom, however, was repeatedly relieved by covering the whole front of the chest with a flannel, wrung out of hot water, and sprinkled with turpentine kept on as long as it could be borne.

Not being satisfied with the rate at which the anasarca was disappearing, the sweet nitre was stopped, and the diuretic powder, with calomel, of our Infirmary Pharmacopœia, given thrice daily instead. This after being continued for a fortnight removed every vestige of dropsy from her feet, legs, belly, and face. Her cough also became less troublesome, and she began to recover the use of the left arm and leg. The bronchitis being now her principal complaint, she was directed to take a mixture containing laudanum and vinegar of squill, and resume the use of the turpentine and vinegar liniment. Under this treatment the cough became speedily better, and is nearly gone. In fine, she has now almost no complaint; her bowels are regular, without medicine; her urine free; appetite very good; she has no pain, no dropsy; does not drag her leg in walking; speaks plainly, and can put out the tongue quite straight. Indeed, the only thing she complains of is weakness, and that the left leg and arm are not so strong as formerly. I attribute the disappearance of the paralytic symptoms, and the improvement in the bronchitis, in this case, solely to the removal of the dropsical effusion, and have been much astonished at her recovery, as we find that patients of her class, having extensive chronic bronchitis, with general dropsy, almost invariably die; and yet the woman recovered from this disease, with the additional grave complication of paralysis.

The above was written about two months ago; the patient continues well.—I am, sir,

Yours, &c.

James Kirk, M.C.

Glasgow, March 1846.

## MEDICAL DISCIPLINE.

Sir,—The excellent principles laid down in your correspondent's letter in your number for February 13th, 1846, are such as to induce me to offer my humble testimony to the supreme value of such communications above most of those we read upon medical reform. Of what avail will any medical change be, unless the principles laid down in that letter are made *positively* operative upon all ranks of the profession?

Experience teaches us through all departments of the world (the Christian church itself not excepted) that law *without discipline* is an empty shadow. We may have better educated pupils, better examiners, uniformity of qualification, open competition for public appointments, better remuneration, and many other favourite objects granted to us; but with all these things, good, bad, or indifferent as they may be, we shall be just where we are, unless individual professional conduct is brought under the eye of a court whose judgment shall be authoritative, and not to be despised; whether it be only admonitory, corrective, or penal. This is the *sine quâ non* of any efficient or lasting reform, without which the medical profession cannot attain all its legitimate respect in society, nor be parallel in civil alliance with itself even to the moderate degree existing in the clerical and legal professions. The medical profession will not bear a perfect comparison with the other two, for several obvious reasons, similar to those stated by your correspondent in the second paragraph of his letter. There are the several grades of ecclesiastical rank, legal rank, medical rank, and perhaps we may say there are three grades of each; and although all three professions may be said to be in "constant personal contact with the public" either as "the source of their fees" or in dutiful exercise for their legally-secured income, yet the chief bulk of the medical profession holds its contact with the public in a materially different manner to the other two professions.

1. The security of the income of the established clergy by law is not affected by accidental collisions with the public, often in the absence of discipline too; but such collisions are very liable to injure medical income, while the income of legal men is more protected by the internal discipline among them preventing very much collision.

2. There is a large amount of ignorance, prejudice, and superstition, connected with the religion of the public, which is morally baneful both on the clergy and laity without producing pecuniary injury; but the lamentable ignorance and credulity of the public upon the causes of health and disease operate most injuriously either to the income or reputations of medical men, and in a way more painful than either the divine or the lawyer has to endure; and are the fertile sources of many quarrelsome and unwarrantable acts among medical gentlemen, so called. The injury to income and reputation, and the mental and domestic suffering inflicted by these (at present) unavoidable feuds, form too great an evil for the generality of men to bear quietly. They have no place of appeal, and they are provoked in self-defence to quarrel and attempt some redress; or, in the milder management of their position, they hold as little communication with their medical neighbours as possible, in order to keep out of harm's way; and so in either way perpetuate the discord of the profession. This long-neglected disorder of the profession certainly criminates the medical and surgical colleges as well as the legislature. The colleges are undoubtedly the most legitimate sources of information and help for the legislature; and unless they do their duty to the legislature in this respect honourably and justly to all parties, or some power extrinsic to themselves does it, I shall have no confidence in the suitableness of enactments originating solely in the legislature.

A word or two on the overstocked state of the profession. The assertion is often made, but where is the proof of it? If the present amount of medical duty be more laborious than it should be, are not more practitioners wanted? Access to the Income Tax Returns will give, without breach of confidence, the gross income of the medical community; and if the relative apportionment should be judged too small for the welfare of the profession, would not the argument for increased remuneration, involve incidentally an increase of practitioners?

I am, Sir,
Your obedient servant,
A PRACTITIONER.

Feb. 6, 1846.

*** Our correspondent asks for a proof of the profession being overstocked. We should have thought there would have been no need to make the inquiry. The market is said to be overstocked with an article, when this can be obtained at a cost much less than that required for its production. Men who have been four and five years at a hospital, who have spent a fortune on their medical education, and who have at last obtained the College diploma, are offered assistants' places at wages lower than those paid to butlers or footmen! There is no dispute about the amount of work: this is undoubtedly much more laborious than it should be; the real difficulty is about the amount of remuneration, which in a large number of cases is only just sufficient to keep the practitioner or assistant from starvation. It is easy enough to talk of dividing the labour; but would the remuneration suffice to support *two* persons, in those cases where this heavy labour now falls entirely upon one? Our correspondent appears not to know that medical services are a marketable commodity, the labour accompanying which will always be the same, but the value of which, when there is equality of skill, must be regulated by competition. The Poor-Law Commissioners are wiser in their generation; for in their last Report, they say: "In fixing this amount (*i. e.* remuneration for medical relief) it is necessary that we should keep in view the *value* at which the services of a medical man are *attainable* for this purpose *under the existing circumstances* of the profession."* Would the salaries attached to these offices be so low, were it not that hundreds are ready to take them upon almost nominal terms in order to obtain a footing in the locality: and is such a mode of competition consistent with an *under*stocked state of the profession? The gross income of the medical community might give an *average* income to each individual which would fall far short of the reality in respect to the majority; just as, in the consumption of corn, so much is assigned as an average by statisticians to each individual of the community annually,—a result which looks very well in figures, but with respect to many thousands is known to be an empty shadow. If our correspondent thinks that the argument for increased remuneration, involves incidentally an increase in the number of practitioners, we totally dissent from this opinion. We should have thought that a very slight acquaintance with the profession, would have convinced him that a large number of his brethren, especially those who practise in the Poor-law districts, are very badly paid for their services; and it is difficult to understand how their position would become improved by increasing the number of practitioners.†

* See vol. xxxv. p. 1074.

† "I have taken the three past years, and find

### ON THE FUNCTIONS OF THE MOTOR OCULI NERVE.

Sir,—I beg to thank Mr. Lonsdale for having directed my attention to his paper on the Motions of the Globe of the Eye, and thereby having given me the opportunity of perusing a very valuable communication. How far his theory, as a whole, is substantiated by the arguments adduced in its support, it is unnecessary here to inquire; the principal object of Mr. Lonsdale's recent note having, I conceive, been to ascertain, whether the priority in promulgation of the theory,—that the two divisions of the third nerve are different in nature,—rests with himself or Valentin. Now the work on the functions of the cerebral and sympathetic nerves, of which I have lately been translating the portion relating to the nerves of the orbit, was published at Berne, in 1839; Mr. Lonsdale's paper, in Dec. 1836: hence the priority must unquestionably be conceded to the latter; if, as I am perfectly willing to allow, but am not prepared to assert, the volume in question were the first publication in which Valentin propounded this particular doctrine.

His views, however, appear, on comparison, to be in several respects widely different from Mr. Lonsdale's.

I have the honour to remain, Sir,
Your obedient servant,
John F. France.

Cadogan Place, Belgrave Square,
March 30, 1846.

### SUPPURATIVE HYDATID CYST OF THE LIVER.

Sir,—Referring to the case of suppurative hydatid cyst of the liver treated by me, and published in your valuable journal of the 19th December, 1845, I have much pleasure in communicating to you an extract of a letter from the brother-in-law of the young lady who was the subject of it, and with whom she had constantly resided; showing at the lapse of seven months from the date of the operation that a perfect cure had taken place.

The letter is dated La Prairie, 13th Feb. 1846, and states, that "Miss P. appears better than ever she was, and looks as healthy as if her sickness had never taken place."—I am, Sir,

Your obedient servant,
Thomas Alexander,
Staff-Surgeon, 2d Class.

London, March 18, 1846.

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the number of cases attended was 1120, the amount for medicines supplied £255 4s,—sum received £132, leaving me minus £123 4s.!"—Letter of a Union Medical Officer.—*Lancet*, March 21st, 1846, p. 347.

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## Medical Intelligence.

### THE TRISCELES* MONSTER.

We have been furnished with the following additional particulars in relation to the case of Partial Double Monstrosity, described by Mr. Acton, in a former number:—†

John Baptist Dos Santos, born on the 5th of September, 1845, is the son of Antonio Dos Santos and Anna de Jesus, his wife; both natives of the Quinta de Carveiros, near Faro, in the kingdom of Algarves.

The parents are both healthy and strong; the father in his 33d, the mother in her 22d year. John Baptist is their third child. The first, a boy, born perfect, in 1843, died in his 17th month; the second, a girl, born in 1844, is yet alive, and enjoying perfect health. The mother can recollect no circumstance which may in any manner have disturbed the growth of her third infant. The whole period of her confinement and the birth itself, were attended with less suffering, uneasiness, or discomfort, than she had experienced on the two former occasions. The child was born at the close of the regular period of nine months.

The little John Baptist, now in his sixth month, is a remarkably well-grown, healthy, and lively infant. He has very good features, enlivened by a pair of bright, dark, large eyes, and constantly animated by the smile natural to his age. Accustomed to the presence of frequent visitors, he holds his levees of several hours without the least symptoms of impatience or fatigue.

The head and bust, as well as the arms and two of his legs, are quite well proportioned, The additional, or third leg, grows between the two regular limbs, and is almost entirely concealed by these when in a state of repose. The abnormal limb is secured to the body by a slight membrane, about half an inch thick. The leg is of about the same length as the other two, but nearly twice as large; it seems also made of a softer substance, though the bones are everywhere perceptible to the touch. It has the usual parts and articulations of a human leg (?) and ends in a square large foot, terminated by ten toes in a row. From the number of these latter, as well as from the size and shape of the whole limb, it is not difficult to perceive that this is but the amalgamation of two legs, possibly of all the nether parts of a human being from the hips downwards.

Some of the many surgeons who have hitherto viewed the phenomenon have ex-

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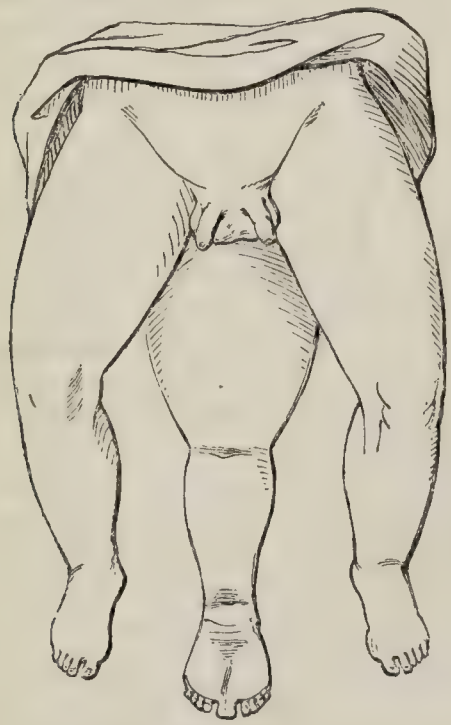
* τρεῖς, three; σκέλος, a leg.
† Page 521.

pressed their opinion that an amputation of the third leg could be attempted with perfect safety; but by far the great majority think that instant death would be the result of so desperate an operation.

But, whatever may be the fate of this strange excrescence in progress of time—for the child bids fair to grow up prosperously—it can have no influence on the other, by far more extraordinary, part of the phenomenon: we mean the duplication of the sexual or generative organs.



Anomalies in these parts of the human body are, if possible, more common than in any other organ or limb. It is not, however, difficult to reduce all irregularities hitherto observed to a more or less perceptible mixture of male and female organs. The individual is either a male or a female; or, up to a certain period of life, he is both. The organs are sometimes so indistinct as to admit of an apparent coexistence of the two sexes. This anomaly, however, is seldom found to continue beyond the age of puberty; the actual possibility of the union of the two sexes in the adult has been denied by nearly all physiologists.

But in the case now before us, the same individual is provided with duplicate male sexual organs. He exhibits not the common phenomenon of two organs imperfectly combined in one, but two distinct separate organs each perfectly developed in itself. Each communicates with the bladder by a separate urinary duct; and the discharge of the urine always takes place simultaneously and equally on both sides.

The two organs are placed side by side, about two inches from one another, and in almost opposite directions, being separated by the additional leg, which rises at an equal distance from each of them.

*** The other peculiarities are sufficiently described in Mr. Acton's paper, and there can be no doubt, as this gentleman has suggested, that this monstrous development is to be explained by supposing that it consists of two lower extremities of another unformed fœtus, united together in their whole length. But for the fusion of the two feet, evidenced by the existence of ten toes, it might be regarded as a gigantic tail. It never can be employed as a leg, and appears to be only an encumbrance to the body of the child. The most extraordinary part of the conformation of this monster, in a physiological point of view, is the double penis.

## THE WEST OF LONDON MEDICO-CHIRURGICAL SOCIETY.

THE Physicians, Surgeons, and General Practitioners of the western suburbs of London are about to form amongst themselves a new Medical Society, to be named "The Western Medical and Surgical Association for the advancement of the healing art and its subservient sciences." The office-bearers proposed to be elected for the first year are, Sir James Clark, Bart. F.R.S., Messrs. Gaskell and Goderich, Vice-Presidents; Mr. Edwards, Treasurer; Mr. A. B. Barnes, Secretary. A general meeting of the members will take place on Wednesday evening, April 8th, 1846, at 7 o'clock precisely, at the Western Grammar School, Alexander Square, Brompton, for the purpose of adopting a code of laws for the Government of the Society, and for the formal election of the officers. Sir James Clark will preside on this occasion.

## THE CITY DISPENSARY.

A NUMEROUS party assembled at the London Coffee-house, Ludgate-hill, on Tuesday, the 24th of March, to celebrate the 57th anniversary of the City Dispensary. The Right Hon. Lord Grosvenor was in the

chair. Mr. John Rowsell, the secretary, read a report of the state and prospects of the institution, from which it appeared that the number of patients relieved last year was 5,038, for which the whole expenditure of the charity was only about £550; and that Dr. Jones and Dr. Edward Bentley, the physicians, and Mr. Taunton, the surgeon, gave their services to the institution gratuitously. The amount subscribed during the evening was upwards of £250.

OPHTHALMIC HOSPITAL.

Mr. James Dixon has been elected one of the Surgeons to the Royal London Ophthalmic Hospital and City Dispensary.

OBITUARY.

On the 28th ult. at Melton, Suffolk, G. Vaux, Esq. M.D.

## Selections from Journals.

### POISONING BY FISH.

The following case occurred to Dr. Galiay, of Tarbes, in the Pyrenees :—

Eight persons sat down to dinner in perfect health. Among the dishes was a tunny, a species of large mackarel, found in the Mediterranean. Several of those present remarked that it had an unusual taste. All suffered from symptoms of poisoning in different degrees, with the exception of two, who took coffee immediately after the meal. The first and most general symptom was immediate irritation of the mouth, accompanied by an eruption of small vesicles in some, and by swelling of the gums and lips in others. The vesicular eruption soon passed away. The face, eyes, and ears, then became red, almost of a deep purple colour: this symptom was followed by intense headache, vertigo, and noise in the ears. The headache, which continued for some time, had remissions. An eruption, resembling urticaria, appeared on the skin of the neck and chest, extending afterwards to the other parts of the body: this was accompanied by intense itching. A dog and cat, which had eaten part of the fish, suffered from severe vomiting and purging.

In the absence of medical assistance, various popular remedies were resorted to, such as exposure to fresh air, cold affusion, emetics, and a mixture of vinegar and water. This is said to have given great relief. Of five other persons who partook of the fish similar symptoms occurred in three: the two who escaped had taken coffee. A robust cat (d'une espèce assez forte) which ate up the remainder, suffered severely from its effects. Many similar cases of poisoning by this fish occurred in the neighbourhood. Equally noxious effects have been observed to result from the use of the fish, whether it was in a perfectly fresh state or had been kept some days. Dr. G. observes, that on all these occasions, coffee was found to be an excellent restorative.—*Gaz. des Hop.* Mars 1846.

*** The fish referred to in the above cases is known to the French under the name of "*Thon*" (tunny), and abounds in the Mediterranean: it is, we believe, allied to the mackerel genus, but is little known as an edible fish in England. The tunny is met with on the western coasts of Scotland, and is called mackrelsture, or great mackerel. We have never before heard of any accident being caused by its use as food, and it is not described by Dr. Christison or Orfila as poisonous. Its noxious effects in the above cases must, however, be referred to an animal poison. From the uniformity of attack and the number of persons who suffered, it is evident that the symptoms could not have been due to idiosyncrasy. The fact also that the animals which partook of the fish equally suffered, proves that it must be possessed of directly poisonous properties. We learn little from the above cases, except that the symptoms are very analogous to those produced by other fish-poison. Coffee may be useful as a stimulant, but it cannot be regarded as an antidote: the practitioner should rather trust to the use of active emetics and purgatives or enemata.

### DOUBTFUL SEX.

M. Guersant lately reported to the Surgical Society of Paris, the case of a child six months old, which had been registered as a girl. On examining the child, he found a species of clitoris, very long, descending in front of two folds of skin, resembling the labia majora. Underneath was a kind of groove extending to the middle of the perineum. That this was the urethra, was proved by the introduction of a catheter, when a small quantity of urine escaped. He gave an opinion, therefore, that the child was a boy, affected with hypospadias at the root of the penis. No testicles could be discovered in the folds of skin resembling the labia, but in his opinion these organs were retained within the abdomen. There was not the least trace of a vagina. M. Huguier thought that the opinion of this child being a male, had been somewhat hastily given. Had the testicles been discovered, no objection could have been urged to it. The mere introduction of a catheter into the bladder was no proof of the child being a male. He had met with a precisely similar case, and he pronounced an opinion that it was a malformed male; but on an inspection of the body a uterus and two ovaries were discovered! In his judgment, practitioners ought to wait till the age of puberty before pronouncing an opinion.

*** This advice is all very well, but what is the child to do for a sex in the meantime?

The settlement of a question of this kind, is often required for legal purposes in respect to children which have not reached the age of puberty.

## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

FRIDAY, *March* 27.—C. J. Axford.—J. A. Woolfryes.—C. H. Collins.—S. F. Palmer.—C. F. Palmer.—C. E. Kay.—T. S. Bourne.—G. H. Jenkins.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *March* 26.—Thos. Coulson, Quom, Leicestershire.—Frederic Hooker, Marder, Kent.—Thomas Skeffington Bourne, Coventry, Warwickshire.—John Baker, 13, Castle Street, Finsbury.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, Mar.* 21.

| Births. | Deaths. | *Aver. of 5 yrs.* |
|---|---|---|
| Males.... 684 | Males.... 461 | Males.... 493 |
| Females . 665 | Females . 419 | Females . 475 |
| 1349 | 880 | 968 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts*, 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 152 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 157 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ..... (Pop. 374,759) | 149 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ..... Pop. 393,247) | 176 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ..... (Pop. 479,469) | 246 |
| Total ..... | 880 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Winters; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 880 | 1080 | 967 |
| SPECIFIED CAUSES ..... | 878 | 1073 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 140 | 183 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 75 | 115 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 160 | 169 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 279 | 363 | 294 |
| 5. Heart and Blood-vessels ..... | 28 | 30 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 63 | 69 | 72 |
| 7. Diseases of the Kidneys, &c. .. | 10 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 15 | 12 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c. ..... | 8 | 7 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 4 | 2 | 2 |
| 11. Old Age ..... | 53 | 90 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 43 | 27 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 3 | Convulsions .... | 46 |
| Measles ..... | 15 | | |
| Scarlatina ..... | 20 | Bronchitis ..... | 42 |
| Hooping-cough.. | 48 | Pneumonia..... | 70 |
| Typhus ..... | 26 | Phthisis ..... | 128 |
| | | Dis. of Lungs, &c. | 12 |
| Dropsy..... | 10 | Teething ..... | 12 |
| Sudden deaths .. | 6 | Dis. Stomach, &c. | 6 |
| | | Dis. of Liver, &c. | 7 |
| Hydrocephalus .. | 45 | | |
| Apoplexy..... | 31 | Childbirth ..... | 7 |
| Paralysis..... | 14 | Dis. of Uterus, &c. | 6 |

REMARKS.—The total number of deaths was 200 below the winter, and 88 below the annual average. The mortality from Hooping-cough has abated. In all the districts, the mortality was below the averages.

## METEOROLOGICAL SUMMARY.

| | |
|---|---|
| Mean Height of Barometer ..... | 29·4 |
| ,, ,, Thermometer[a]..... | 38·2 |
| Self-registering do.[b] ..... max. | 64·5 min. 15· |
| ,, in the Thames water. — | 49· — 43·8 |

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·38: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was, we believe, for the first time this year, below that of the mean temperature of the month (43·9°). The extreme hebdomadal range in the self-registering thermometer was 49·5°.

## ENGLISH MEDICAL BOOKS

LATELY PUBLISHED.

Sir B. Brodie's Lectures illustrative of various subjects in Pathology and Surgery.—Manual of Medical Jurisprudence, by A. S. Taylor, F.R.S.—Miller's Practice of Surgery.—Eden's Search for Nitre, and the true Nature of Guano, &c.—Miles on the Teeth.—Horsley's Chart of the Chemistry of Poisons.—Johnson's Results of Hydropathy.—Baron von Reichenbach's Researches on Magnetism, translated by Dr. Gregory.—Carpenter's Manual of Physiology.—Dr. Wilson's Medical Notes on China.—Wheeler's Hand-Book of Anatomy for Students of the Fine Arts.—Transactions of the Medical Society of London, New Series, Vol. 1.—Phillips on Scrofula.—Lindley's Vegetable Kingdom.—Dr. Clutterbuck's Essays on Inflammation.

## NOTICES TO CORRESPONDENTS.

Dr. Thurnam's book on the Statistics of Insanity has been received.

We regret that we have been compelled to postpone several communications which are in type.

Dr. Joseph Williamson (Aberdeen).—The case has come to hand, and will be inserted.

ERRATA in our last number.—At p. 538, col. 2, 33 lines from top, *for* "permanently," *read* "hermetically" sealed.—2 lines from bottom, *for* "as," *read* "was."—In the leading article, at p. 557, col. 2, line 12 from bottom, *for* "too," *read* "two."—P. 558, col. 2, line 6 from bottom, *for* "dwelt with," *read* "dealt with."—P. 559, col. 1, line 14 from top, *for* "or," *read* "for."—Line 28 from top, *for* "any particular number," *read* "any particular member."—P. 562, col. 1, 11 lines from top, *for* "mental instruction," *read* "mutual instruction."—P. 568, col. 2, line 27, *for* "laid best," *read* "lay best."

## Lectures.

### LECTURES
ON THE
### DISEASES OF THE KNEE-JOINT.

By Sir B. C. Brodie, Bart.

Lecture IV.

*Delivered in the Theatre of St. George's Hospital, January* 28, 1846.

*Morbid alteration of structure of the synovial membrane.*

There is a curious condition of the synovial membrane in which it seems to have undergone a peculiar morbid alteration of structure. It is thickened in various degrees, sometimes to the extent of an inch and a half, having assumed a sort of pulpy structure intersected by white membranous bands. In some instances there is a preternatural vascularity, and vessels injected with blood are seen ramifying in it to a considerable extent. In other cases no increased vascularity is perceptible. There is little doubt that in some cases this is the result of long-continued chronic inflammation; but in others I am led to believe that it takes place independently of inflammatory action; at least, I have seen several cases in which there were no symptoms indicating the presence of inflammation until the disease had reached its most advanced stage; and we well know that at this period of an organic disease inflammation is liable to occur, whatever the disease may be. I am not certain that I have seen this disease anywhere except in the knee-joint, but Mr. Hodgson, of Birmingham, has met with it in the joints of one of the fingers.

Where the disease supervenes on repeated attacks of inflammation, there are of course in the first instance inflammatory symptoms such as I described in a former lecture. In other cases, in which it seemed that the disease had not been inflammatory in its origin, the symptoms have been as follows. The patient complained not of pain, but of a slight stiffness in the joint, so slight that at first it scarcely attracted his attention. The pain then became more considerable, and on looking at the knee he has perceived that it was somewhat swollen. The swelling and the stiffness have increased, still being unaccompanied by pain, and at last the swelling has attained a large size. On examining the knee at this period, I have found a soft elastic swelling, without any sense of fluctuation, and having somewhat of the same shape that it presents in cases of inflammation of the synovial membrane when the joint is distended with fluid the principal difference being, that the swelling, instead of being uniform, was more prominent in one part, less so in another, in consequence of the difference in the progress of the disease in different situations. Occasionally the disease is limited to one portion of the membrane. A girl labouring under this disease died in this hospital from some other malady, and on examining the body I found the synovial membrane on the inner side of the knee altered in structure in the way which I have mentioned, while on the outer side did not differ from its natural condition. The disease has sometimes gone on for two, three, four, or five years, before any further symptoms showed themselves. As it has advanced to the layer of the synovial membrane, which is reflected over the cartilage, the latter has begun to ulcerate, the ulceration being marked, as on other occasions, by aggravation of pain and startings of the limb at night. At this stage of the disease small abscesses form in the substance of the diseased synovial membrane. These gradually make their way to the surface, one coming forward in one place, and another in another, discharging a very small quantity of matter.

When the cartilages are thus ulcerated, and matter is formed in the joint, and perhaps in the substance of the synovial membrane also, the patient's health begins to be affected, as in other cases of articular abscesses, and at this period nothing can be done for him but to amputate the limb. Can any remedial means be employed with success in the early stage of the disease? I used to think *not*, and that is the opinion I have published in my work on Diseases of the Joints. It was my belief that it was a disease not under the control of art: I had indeed seen both local applications and constitutional treatment employed without any good result whatever. But I am not satisfied that this opinion was correct. The following case occurred about ten years ago, and I mention it because I had an opportunity of watching its progress for several successive years. A young man, about eighteen years of age, consulted me concerning a disease in the knee. It had then been advancing slowly for five years; there was no pain, and never had been, but the joint was considerably swollen, the swelling being elastic, more prominent in some parts than in others. There was no perceptible fluctuation, but the joint was very stiff, and the disease had all the characters of that which I have just described. I first of all applied pressure by means of several alternate layers of diachylon plaster and bandage, and this was kept up for a considerable time; afterwards recourse was had to leather

splints, secured by a firm bandage, so as to keep the joint fixed at the same time that moderate pressure was made upon it. Constitutional treatment was not neglected. The patient was put through a course of sarsaparilla and the bichloride of mercury. This plan of treatment, occasionally varying the medicine and still keeping up pressure, was persevered in for three years with a slow and gradual but very manifest improvement; and when I last saw the patient the joint was scarcely larger than the one on the opposite side. It was stiff, but he walked very well with an anchylosed knee.

The disease which I have now described is of rare occurrence, and although it may sometimes originate in long-continued inflammation, it is to be distinguished from the pulpy thickening of the synovial membrane which I have formerly described, which is common enough. The appearances which the disease presents are displayed in the drawings and preparations on the table.

*Loose cartilages in the knee.*

Loose cartilaginous bodies are sometimes found in the joint. They are more commonly met with in connexion with the synovial than the serous membranes, but are not peculiar to the former. They sometimes are formed in the pleura and in the tunica vaginalis, and I have in one instance met with them in the cavity of the peritonæum. In its recent state the large cartilage is generally flattened, smooth on the surface, but of an irregular shape. In the first instance it is connected by a band of membrane which seems to be a continuation of the synovial membrane, to the inner surface of the joint, but at last this membrane becomes ruptured, and then the cartilage is altogether loose in the articular cavity. It has just the appearance externally of the proper cartilage of the joint. When it is of small size it is cartilage throughout, but when it attains a large size, we generally, I might I believe say always, find that bone has been deposited in the centre. When dried it shrinks to so small a size that scarcely any part except the bony centre is perceptible; as you may see in the specimens which I now show you. These loose cartilages form in various numbers; sometimes there is only one, but I have in operating on a single patient extracted as many as five.

The first inconvenience which the patient experiences generally occurs in walking. The cartilage slips between the articular ends of the bones, producing a good deal of pain, interfering with the motion of the joint, and sometimes causing him to stumble. By a little management he contrives to expel it from the situation in which it is lodged, and then he walks home well enough; but he is liable to a recurrence of the accident. The distress which the disease occasions is different in different cases; the difference depending on the circumstance of the cartilage being or not being attached to the synovial membrane, on its size, and other circumstances. In one case it may slip more easily between the bones, and less easily in another. Not unfrequently the patient goes on for years suffering very little from the disease. In other cases not only does the cartilage frequently slip between the bones, but whenever it does so a violent attack of inflammation of the synovial membrane takes place, so that the patient is laid up perhaps for weeks. After a time it would appear as if the constant slipping of the cartilage between the bones injured the articular cartilage and caused them to ulcerate. Here is a specimen where there were two loose cartilages in the joint; the cartilage covering one of the condyles of the femur is ulcerated to a considerable extent, but without suppuration. In this case the patient used to suffer more than the usual amount of pain in the joint whenever the cartilage slipped in between the articulating surfaces.

These cartilages may be removed by an operation, which I have performed several times. In some instances no inflammation followed the operation, in others a great deal. In one case which came under my observation, under the care of the late Mr. Jeffreys, suppuration followed, with a great deal of mischief, and the patient ultimately lost his limb. I suspect, however, when such ill consequences ensue, that very frequently it is the fault of the surgeon. The operation requires to be performed with the greatest caution. Get the cartilage fixed over the outer or inner condyle of the femur, and there let it be held, either by yourself or an assistant, to prevent it slipping into the joint. The skin, the cellular membrane, the fascia, the ligaments, and the synovial membrane, must be slowly divided one after the other; the knife being held with a light hand, as otherwise the cartilage will be pressed into the joint, and you will not be able to extract it. Having divided the parts carefully, and made room for the cartilage to escape through the synovial membrane, take hold of it with a tenaculum or some other sharp-pointed instrument, withdraw it, and bring the edges of the wound together. If the cartilage should lip away, never grope for it, but bring the edges of the wound together, and no harm will happen, and there will be nothing to hinder the operation being performed on some other opportunity.

It has been supposed that an improvement might be made in this operation, by making a valvular opening; that is, by

introducing a narrow sharp-pointed bistoury, puncturing the skin at some little distance, and then dividing the fascia and other parts down to the cartilage, on the principle of the subcutaneous operation performed for the division of tendons. I do not myself see why this method should be preferable to the other; it is not the wound of the skin, but that of the synovial membrane, that makes the danger; and I am satisfied from what I have seen that a principal source of danger is the anxiety of the surgeon to finish the operation, which leads him to grope for the cartilage in the joint when it happens to have slipped away from the wound, instead of waiting for a future day.

*Fleshy tumors within the knee-joint.*

Fleshy tumors sometimes grow from the inner surface of the synovial membrane. I have seen two cases, one under the late Mr. Ewbank in this hospital, and the other in a patient of my own in private practice. In both cases the disease was mistaken, before the operation was performed, for a loose cartilage. In Mr. Ewbank's case he detached and removed it, and the patient recovered without any bad symptoms, but there was reason to believe that the excrescence grew again. In my case the excrescence had a broad attachment, but I divided it and removed it. A good deal of inflammation supervened, but no real harm happened, and the patient recovered. This was upwards of 20 years ago, and he has continued well ever since. Still, I cannot but think that the operation is attended with a certain hazard to the limb; therefore I would not recommend it, except where the disease was productive of very great inconvenience.

*Malignant diseases of the knee.*

I have not met with a case of true scirrhous or carcinomatous disease of the knee; but many examples of that form of malignant disease to which the names of medullary disease, and *fungus hæmatodes*, have been applied, have fallen under my observation; and the appearances which this affection of the joint exhibits are well displayed in the preparations and drawings on the table.

The morbid growth, as far as my experience goes, always has its origin in the cancellous structure of the bone; sometimes of the femur, sometimes of the tibia. When it begins in the tibia it is likely to be detected at an earlier period than when it begins in the femur; for a plain reason, that this bone being less covered by muscles than the femur, any enlargement of it is more apparent.

Sometimes there is, in the first instance, a dull pain referred to the seat of the morbid growth; and this is followed by a slight enlargement of the joint. In other cases the enlargement is the first thing perceptible, there being no antecedent pain. In some instances the patient is not conscious of the existence of any disease until it is suddenly roused into action by some accidental injury. The patient whose limb, after amputation, furnished one of these preparations and drawings, while carrying a heavy weight slipped with one foot in a hole in the ground; a severe pain in the knee was the consequence, and an enlargement of one of the condyles of the femur was observed for the first time immediately afterwards. In the early stage of the disease the diagnosis is always difficult, and indeed a certain diagnosis cannot be made. The tumor gradually increases, sometimes with much pain, sometimes with little; and, as it increases, the nature of it becomes sufficiently manifest. In some parts it is hard where the external shell of bone remains entire; in other parts, where the bone has disappeared, it is comparatively soft and elastic. In some parts the skin retains its natural appearance, in others it is of a dark red colour, and adheres to the morbid growth beneath. The superficial veins are seen in a dilated state ramifying over the surface of the tumor. For a long time the motions of the joint are not materially impaired; and you will perceive in the specimens before you how large a size the tumor may attain without the cartilage being affected by it. Of course ultimately all the textures of the joint become involved in the disease, and unless amputation be had recourse to the skin itself ulcerates.

As to the treatment of these cases there is little to be said. You have no remedy to offer with the exception of the removal of the limb by amputation. But will the operation produce a cure? I fear that we must answer the question by saying that it will not do so in the great majority of instances. I have, however, met with two cases in which the patients were alive and well many years afterwards, and, indeed, as far as I know, they remain so at the present time, although in one of them the operation was performed seventeen years, and in the other nearly eleven years ago. In each of these cases the morbid growth had begun in the condyles of the femur; it had attained a very large size, but had at its upper part a very abrupt termination; and in sawing through the bone, some way above it, both the bone itself, and the medulla and the medullary membrane, seemed to be in a perfectly healthy state. I own that I have entertained some doubts whether in these cases I had not been in error as to the real nature of the disease, and concluded too hastily that it was of a malignant kind. The amputated joints, however, were fortunately preserved, and on a close examination of them lately, I

cannot in their present appearance find any thing to justify this suspicion, and I still feel myself bound to say, that however frequent the failures may be, amputation is occasionally successful. Of course before you recommend such a proceeding you will satisfy yourselves that the boundaries of the tumor are well defined; that the glands in the groin are free from disease; that there are no signs of disease in any other organ, and that the general health is good. It is reasonable to suppose that there is a greater chance of ultimate recovery where the disease has originated in the head of the tibia, than where it has been seated in the condyles of the femur; as in the former, without having recourse to so hazardous an operation as that of amputation at the hip-joint, you may remove the whole of the bone in which the disease began.

*Cartilages and bone of the knee worn away by friction.*

Here is a specimen showing a condition of the knee-joint that is sometimes met with; the cartilage and even the bone are worn away by friction, as if they had been scraped by a chisel or some other hard instrument. This state of things occurs in old cases of inflammation of the synovial membrane where the patients have been liable to the disease for many successive years, and generally in gouty persons; there being in many instances a deposit of lithate of soda at the same time on the inner surface of the membrane.

I have said that the parts appear as if they had been worn away by friction. But this is not all; if it were so, the cancellous structure of the bone would become exposed, which, as you will perceive, on examining the preparations, is not the case. A process of repair is going on simultaneously with that of destruction, in consequence of which the exposed surface of bone every where is of a hard and compact texture.

The existence of this singular condition of the joint is indicated by a grating like that of a rusty hinge; a circumstance which the condition of the articulating surfaces at once explains.

A somewhat similar symptom may occur under other circumstances. In young persons, especially in young women, there is sometimes a crackling not only of the knee, but of the other joints, apparently connected with a defective secretion of synovia. In elderly persons the cartilage undergoes an alteration of structure, assuming a fibrous appearance, and this is followed by an absorption of it, so that the surface of the bone is exposed, and the result is a grating like that of a fracture when the joint is moved. This is one of the changes incident to advanced life, is scarcely to be regarded as a disease, and can no more be remedied by art than grey hair can be restored to its original colour.

*Hysterical Affections of the Knee.*

There is a complaint of the knee, of common occurrence, especially in young women of an hysterical constitution, and which is frequently confounded with more serious diseases; so that I have known patients labouring under it to be treated for a long time for scrofulous disease, or ulceration of the cartilage; and, indeed, cases have occurred in which the limb, through this error, had been actually amputated. An hysterical young woman sprains her knee, or thinks that she does so, in walking. She complains of pain; believes that she cannot walk; she becomes an object of attention, and her family and friends are alarmed by the prospect of a white-swelling. I need scarcely state that all hysterical symptoms are aggravated by constant attention to them, and such is the case here. The pain becomes more severe, and at last a surgeon is consulted. He finds the knee no larger than the other, but the patient says it is exceedingly painful. She cannot bear it to be touched or moved, and often lies on the sofa a perfect fixture. On your examining the knee she winces as if it caused her the greatest suffering; and you may observe that the slightest touch will produce as much pain as a heavy pressure. Pinching the skin over the joint occasions more pain than squeezing the surfaces against each other with the hand on the heel. If the limb be examined while the patient's attention is directed to what you are doing, she complains severely, but if the examination be made while she is engaged in conversation, and her mind otherwise occupied, she bears considerable pressure on it without making any complaint whatever. The following are the diagnostic marks of the disease:—*first*, that the patient is of an hysterical constitution, probably she has other hysterical symptoms; *secondly*, that the joint is not swollen; *thirdly*, that a light touch of the skin produces as much pain as a heavy pressure; and, *lastly*, that if the patient's attention be directed to other matters the joint may be handled without causing any pain at all.

For the most part the diagnosis is sufficiently easy. There are some cases, however, which will puzzle a surgeon in spite of a good deal of experience. For instance, a girl labours under this affection of the knee; it has been mistaken for two or three years, leeches have been applied, repeated blisters and stimulating liniments of all kinds have been used to irritate the skin. These applications alter the appearance of the joint, they cause effusion of serum and lymph beneath the skin; the joint seems swollen, and

under this mistaken treatment, continued for two or three years, although there is no disease at all, the knee looks as much like a diseased joint as possible.

This affection is occasionally met with in the hospital, but more frequently in private practice. I am satisfied that a great number of cases that were formerly treated as white swelling of the knee were nothing more than hysterical affections. I have myself mistaken the case, over and over again, in the early part of my professional life; and I suspect there are some who are liable to make the same mistake even at the present day.

The more the attention that is paid to any hysterical disease the longer it will last. If an hysterical patient has retention of urine, while a catheter is regularly used she will not recover the power of making water herself. So, in this case, so long as the knee is made the subject of surgical treatment, and the surgeon pays his daily visits, and the patient's friends continue to make her complaints a subject of conversation, so long will her recovery be delayed; and hence it is that I have known young women affected in this way, remain on a sofa, the victims of an error, for many successive years.

The first thing to be done is, to direct the attention of the patient to other things. Tell the family not to make her ailments the subject of conversation; and, *above all, do not let her have too much surgical attendance.* Nothing should be done in the way of local application, for it only fixes the thoughts on the part affected. If anything be applied it should be a simple remedy, such as a lotion of camphor mixture and spirits of rosemary; and this should be had recourse to only when the pain is more severe than usual. But try to improve the general health. Probably the menstruation will be found deficient; and some preparation of iron may be exhibited with advantage. In many cases there is a weak circulation, cold hands and feet; and combinations of iron and ammonia with infusion of quassia or some other bitter may be useful. If the patient lives in the metropolis, let her if possible spend a part of the year at the sea side. Above all, do not let her be confined to the sofa. She will say that she has so much pain that she cannot move. Then let her have crutches. Do not urge her to do very much at first, for this will excite suspicion and have a bad moral influence, but persuade her to do what she can without great inconvenience. She will find that she does not suffer as she had anticipated, and then she will be disposed to do a little more, until at last she finds that she can walk as usual. Whether she recovers soon or not will depend mainly on this—whether or not she really wishes to be cured; and in this respect there is a very great difference: some young women, (and, I may add, young men too, for the same train of symptoms sometimes occurs in the other sex), prefer being laid up, and being pitied and made much of by their families; while others, being of a higher order of mind, are really anxious to get about, to enjoy the society of their friends, and perform their social duties; and the latter will recover much sooner than the former.

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### ANALYSIS OF THE FLUID OF HYDROCEPHALUS EVACUATED BY PUNCTURE.

When first evacuated, the fluid was clear and colourless, but after standing for twenty-four hours it assumed a yellowish tint, though without becoming turbid: its sp. gr. at 66 deg. F. was 1010; its reaction acid; boiled either alone or with dilute nitric acid, it did not become turbid. Upon evaporating a portion of it to dryness, and treating the solid residue with nitric acid, a coagulum was formed, which was readily soluble in caustic potash; boiling ether extracted nothing from this solid residue. Upon adding nitrate of silver to a portion of the fluid, acidulated with nitric acid, a copious yellowish-white precipitate was formed, becoming black on exposure to light. Upon neutralizing the filtered acidulated fluid with ammonia, a yellow precipitate was produced, soluble in excess of the ammonia. Chloride of platinum caused in it a yellow crystalline deposit. A portion of the dry residue (left after evaporating the evacuated fluid), was mixed with hydrochloric acid, and heated; upon cooling, numerous cubic crystals formed in the fluid.

It would appear, therefore, from the above analysis, that the evacuated fluid contained hydrochloric and phosphoric acids, potash, soda, and a small quantity of some substance, possibly a compound of protein (the osmazome of chemists?) There were no traces of any salts of lime, magnesia, or ammonia; the salt of barytes did not indicate the presence of sulphuric acid. The conclusion drawn from the above results was to the effect, that this fluid was not the product of inflammation, but simply the ordinary cerebro-spinal fluid, enormously increased in quantity.—*Spengler, in Oester-Medicin Wochenschrift*, Juli 1845.

The above analysis corresponds very closely with one made by M. Barruel (Journ. de Physiol. tom. i. p. 96), of fluid drawn from a hydrocephalic head; not a trace of any inflammatory product, beyond a minute quantity of albuminous matter (in the ratio of 1 to 1000), being discoverable in it.—*Northern Journal of Medicine.*

## RESEARCHES ON STRICTURE OF THE URETHRA.

By L. Auguste Mercier, M.D.

*Translated for the* London Medical Gazette.]

[Continued from p. 500.]

I have published an extended memoir on the effects produced by the stay of sounds in the urethra; for in hospitals, retention of urine is still generally treated by wearing sounds continuously, and many of these diseases terminate in death. Now I have in these cases succeeded in following all the phases of the inflammatory action: in the points most irritated by the presence of the sound (even when the mucous membrane has not presented any trace of excoriation), I have found blackish discoloration and thickening of the spongy tissue, coagulated blood in its areolæ, and, later still, purulent infiltration. In the Bulletins of the Anatomical Society for 1836, is the case of a man who had worn a sound continuously for some time; M. Lebert encountered in the urethra "five 'superficial' excoriations, affecting only the mucous membrane; they are all," says he, "five or six lines long, the most anterior is about two inches within the meatus; the spongy tissue is more or less black, and in some places infiltrated with pus." I once more ask—if the patient had survived, and the inflammation been arrested, what would have become of the areolæ of this tissue?

I have many times had occasion to open subjects who had worn sounds some years before; and have frequently found, at the place where I observed on others the phenomena just described, a lamina of the same form, but white, resulting from the condensation of the parietes of the urethra, which no longer exhibited at the spot in question any traces of areolæ: an example of this I published in my "Memoir on Spontaneous Perforation of the Bladder," in the Gazette Médicale, in 1836. Though the upper wall of the canal does not usually participate in the alteration, but preserves its natural suppleness, I have often been convinced that, at the level of these laminæ, the urethra was diminished in calibre; and this had no doubt occurred in the following case, reported by M. Bermond: — "An epileptic insane person was admitted, under M. Lallemand, for a very firm coarctation situate about the middle of the canal, which was obviously the result of wearing sounds; for the patient had been subjected a year before to this treatment, in order to counteract an obstinate habit of masturbation*.

* Cons. Prat. sur les Rétréc. de Urèth. p. 16.

M. Civiale* has asserted, that the mucous membrane of the urethra is sound at the seat of stricture, but this is erroneous. He was undoubtedly led to make the statement by not having found it red, thickened, and fungous, as some authors describe; but it has not on this account less truly lost its normal structure: it is thin, smooth, and white, and partakes of the characters we have found in the diseased spongy body with which it is then intimately united. Occasionally the mucous membrane alone may appear altered, but at other times the induration involves a certain thickness of the spongy structure; and as this encroachment extends most deeply towards the centre, the inner edge of an incision made into the canal presents a more or less dense and white layer, thick in the centre, and gradually decreasing at the extremities. This partial transformation of the corpus spongiosum is particularly observed where the spongy tissue has the greatest thickness; as exemplified, at the bulb, in the above case taken from M. Lallemand.

If what I have advanced with respect to the corpus spongiosum be admitted, the condensation of the mucous membrane will not present aught extraordinary. The mucous membranes are extremely vascular; whence retraction which takes place even in the skin when it has long been the seat of inflammation, must be produced here in a very palpable manner; and this explains why the membrane is not gathered up in longitudinal folds, as some authors have supposed it to be. Such plaiting, when it does exist, occurs only at the edges of the stricture; and in those cases alone where the transition from morbid to healthy tissue is abrupt. Of this, a case of M. Dalmas', reported by M. Lallemand, affords an instance:—"at an inch and a half from the neck of the bladder was a stricture formed by a true cicatrix, smooth, dense, and surrounded with plaits at its extremities†.

It will in some degree aid our conception of the mechanism which produces strictures, if we observe those developed at the orifice of the meatus; and to avoid suspicion of contriving facts according to the exigencies of my theory, I will quote the words of M. Bermond, pupil of M. Lallemand:— "Sometimes there occurs venereal ulceration of the aperture, the edges of which are, by the force of the nascent cicatrix, dragged together and blended to a variable extent; or again, the congestion from simple inflammation, which has augmented the sensibility of the extremity of the glans, together with its volume, and caused increased afflux

* Gaz. Méd. 1842. p. 668.
† Pertes Sém. t. i. p. 56.

of blood to it, after a certain duration leaves a gelatino-albuminous substance in the tissue it occupied, which thickens, becomes organized, and constitutes a new structure. On taking the part corresponding to the aperture of the meatus between the fingers, one feels that the tissue composing it has become almost horny: there is a kind of hard knot encompassing the orifice like a ring, contrasting by its whitish aspect, as well as by its consistence, with the roseate hue and supple elasticity of the rest of the glans*." I could have supplied nothing to his picture had the author added, that when induration occupies a certain thickness of the glans, the latter shrinks and becomes atrophied simultaneously with the contraction of its orifice: we find this circumstance mentioned, however, in many cases.

Completely to demonstrate the reality of the phenomena I am pointing out, we will follow them step by step in a tissue respecting which I have made numerous investigations, —I mean the muscular. This structure is equally vascular; insomuch that its colour is owing to the blood which permeates it; indeed, "Lecat, Verhegen, and Vieussens, concluded from their observations, that every muscular fibre is an assemblage of vessels of a particular order, continuous with the arteries and veins at the point where these two are blended." Now although it has been questioned up to the latest times, whether muscular tissue be susceptible of inflammation†, I can assert that it is often, and even spontaneously, so affected. At the earliest period at which I have been able to investigate the disease, the muscle is blackish; and this colour, is found on attentive examination, to be owing to a multitude of small black points, the largest of which are evidently formed of blood coagulated in the minute vessels; and long-continued washing does not make them altogether disappear. If inflammation continue, there is mingled with the black hue a greyish shade, due to the formation of pus, which subsequently collects to a point. This state is but seldom met with, because previously to its establishment, either the muscle ruptures or perhaps inflammation is arrested: in the latter case, the colour of the tissue gradually passes into brick-red; the muscle diminishes in volume and length; at the same time its hardness increases, it loses its contractility, and becomes more resisting to a cutting instrument; and finally, at a still later period, we find it perfectly white and contracted, forming merely a very slender fasciculus, and, in a word, completely transformed into fibrous tissue. Have we not, then, in this instance, the same process which takes place in the mucous and spongy tissues, and in the larger vessels?

It is especially in persons who have died after capital operations that I have been able to follow, one by one, these phases of muscular inflammation; which I may here say, is the cause of the flesh always retracting secondarily after amputation, but particularly when the cicatrix is very tardy in formation. It is also, I am convinced, in the same manner that in many cases muscles become contracted when for a long time inflammation exists in their neighbourhood. Few surgeons have not seen contraction of the sterno-mastoid, and wry-neck from abscess in the neck; contraction of the gastrocnemii, and club-foot from phlegmonous inflammation in the calf, &c. After what has been said of the vascularity of muscles, it is plain that their capillaries, like vessels of greater diameter, are obliterated by inflammation, retract in consequence, and so bring on fibrous transformation of the tissue into which they so largely enter. Lastly, I will add, in supplement to what has gone before, but only as conjecture, that such changes in the capillary system of a tissue are very likely to be followed by atrophy of its solid substance; for absorption of a portion of its organic molecules must accompany the removal of the molecules of coagulated blood; and it is probable that this absorption contributes, according to the degree it has reached, to the differences of force with which *cæteris paribus* a tissue thus degenerated resists distention.

I might here shew how often the formation of stricture of the vagina, rectum, and œsophagus, is in accordance with the phenomena we have now examined; but as this would lead me too far from my subject, I return to strictures of the urethra, and declare, that with the exception of those arising from special degeneration of tissue, as scrofula and cancer, all have, in different degrees of perfection and completeness, the same organization; that is to say, they are formed by a fibrous tissue which sometimes follows cicatrization, sometimes the mere obliteration of a bed of vessels by inflammation. They differ, then, only in form, extent, straitness, induration, situation, and number: these differences we will now proceed to investigate.

### *Form, variety, and seat of stricture of the urethra.*

The change constituting stricture may occupy only a part of, or the entire circumference of the canal: occasionally it partakes of both characters—that is to say, it occupies the whole circumference, but is less advanced on one side than the other: very

* Sur les Rétréc. p. 14.
† Béclard, Addit. &c. p. 194.

few slight strictures are regularly circular; and on the other hand, few advanced ones are confined to a portion of the circumference of the canal. The orifice, though sometimes central, is commonly nearer one wall, and particularly the superior, judging from the engravings of Ducamp and Segalas; and we can understand that the wall which adheres to the body of the penis would be less obedient than the inferior, which is unattached to the centripetal contractile force: but I believe the alteration of tissue itself exists more frequently, and to a greater degree, on the inferior wall. The relative frequency of this position of the orifice should be borne in mind in practising catheterism. The coarctation is sometimes abrupt, sometimes gradual, like a funnel: Whately describes a stricture of this kind an inch long, partly in front of and partly in the bulbous region, which expanded gradually towards its extremities; and he states positively, that the mucous and spongy tissue were more firm and hard at this point than elsewhere.

Partial strictures have generally little longitudinal extent, being commonly almost linear, and occupying but a quarter or a third of the circumference of the canal, sometimes rather more. They are denominated "bridles" by Lafaye, Chopart, and Amussat. In some cases they are oblique; and of this I have an example among my own preparations. Now and then they are longitudinal, that is to say, of greater length than breadth, and Sir Charles Bell has depicted several in the same urethra. M. Amussat has never seen a stricture of this kind*; M. Vidal states he has never satisfactorily observed one †; yet, according to Desault, Morgagni, whose scrupulous precision is well known, has described some examples‡; Chopart, certainly without insisting on, yet speaks of them §; M. Lisfranc makes allusion to them ‖; and one of the editors of the Gazette Médicale found a longitudinal bridle of more than four lines extent¶. For my own part, I have never seen "bridles" which could be referred to simple or gonorrhœal urethritis; but have often observed at the inferior wall of the urethra, opposite the suspensory ligament of the penis, those white laminæ accompanied by stricture, which ensue from the pressure of (even elastic) sounds; and occasionally have found cicatrices of a radiating form.

Circular strictures offer several varieties; some are of but little extent, and nearly linear, as if the urethra were strangulated by a thread; others occupy an inch or more; and specimens have been seen involving great part of the canal. The tenth plate of Sir Charles Bell's engravings represents a stricture of more than two inches in length; the fifth plate (fig. 2) exhibits one of three inches and a half; in the sixth plate (fig. 4) is depicted a urethra strictured in a varying degree throughout, and M. Ricord relates a case of the same kind*. The most extensive stricture I have seen was only about an inch in length.

It is remarkable that long strictures are generally formed by the junction of several shorter ones; so, at least, it seems from the narrowing they almost always present at different points; and the wax injections of Sir Charles Bell, and some investigations of my own, prove the fact. These strictures being often, as already said, more developed at one point than others of their circumference, and the more developed points not always being on the same side of the urethra, the latter assumes a somewhat tortuous course, of which J. Hunter§ gives an example.

Can stricture produce complete obliteration of the canal? M. Amussat thinks not; but Alliés speaks of a man æt. 30, whose urethra was obliterated at the glans, so that no vestige of it remained as far as the fossa navicularis; the urine passed through two fistulæ ‖. Chopart noticed a similar circumstance in the body of a person aged 50, who "had indurated fistulæ in the perinæum and scrotum, very tender at the exterior, and with much thickening in their course, which opened by a single aperture into the urethra near the middle of the scrotum. The obliteration commenced below the fossa navicularis, and was more than an inch in length; the canal being completely interrupted with neither cavity nor sinus for that space. This portion was hard, callous, and tendinous in character. Beyond the obliteration, the walls of the canal presented irregular induration and tuberculation, and the urethra was too contracted to allow more than the passage of a small stylet; but at the neck of the bladder, or the prostatic portion, an ordinary instrument could easily pass§." M. Delmas likewise found complete obliteration in a man who died in Hôtel Dieu, in consequence of extensive extravasation of urine ‖; and M. Bosc presented to the Anatomical Society a specimen of stricture with complete obliteration:—"The finest stylet could not enter, and not a drop of urine came from it for four years;" the membranous portion communicated with some fistulæ¶.

Without controverting these facts, it

* Leçons, p. 13.
† Path. Ext. vol. v. p. 316.
‡ Œuv. Chir. t. iii. p. 262.
§ Mal. des Voies Urin. t. ii. p. 93.
‖ Thése sur les Rét. de l'Uréthre, p. 40.
¶ 1833, p. 63.

* Œuv. de Hunter, t. ii. p. 297: note.
† Œuv. t. ii. p. 297.
‡ Mal. de l'Urèth. p. 73.
§ Mal. des voies Urin. t. ii. p. 568.
‖ Thèse de M. Salles, 1824.
¶ Bull. 1827, p. 89.

must be allowed that cases of complete obliteration are extremely rare: I have never myself met with one; the closest contraction I have witnessed being in a preparation in which a hog's bristle only can pass. Between a stricture in its commencement and the state just spoken of, the canal may offer any degree of variety in diameter. When stricture is partial (in the sense already explained), there exists necessarily a certain calibre; since its circumference is jointly composed of diseased and of healthy portions of the parietes of the urethra, and it will readily yield to dilatation, as one portion, at least, of the tissues which circumscribe it, preserves its natural pliancy. But when the fibrous morbid structure occupies the whole circumference, the contraction is, so to speak, indefinite; and the stricture sometimes presents considerable rigidity, so as to be evidently incapable of the spasmodic contraction in which many surgeons believe.

Most commonly one stricture alone exists, but several are occasionally met with in the same subject: thus Ducamp found five, J. Hunter six, Lallemand seven, and Collot eight; and I have myself for some months had two individuals under treatment, who must have at least six or seven; but only one of these persons has any stricture of much extent.

If we are to credit certain authors, and rely upon their measurements, stricture of the prostatic region, and neck of the bladder, is not infrequent: for though the length of the canal seldom exceeds six or seven inches; and but two or three times, in cases of prostatic enlargement, have I known it from eight to nine inches and a half; yet, in fourteen of Lallemand's cases, the distance from the orifice to the stricture equalled the latter measurements *. Boyer regards the membranous portion as the peculiar seat of this malady† : Desault states that the portion most subject to it is that bordering upon the bulb; merely adding, that stricture is sometimes found in front of the bulb, and very rarely beyond‡: John Hunter, without denying the possibility of stricture beyond the bulb, says simply he has never witnessed it §; and Mr. Shaw never found one in that situation, in the dissection of above 100 subjects with coarctation of the urethra ‖. Soemmering formally rejects prostatic strictures as impossible¶; and Amussat, going farther still, says that organic stricture never exists beyond the bulb *. In my own opinion, the views of Desault are most in accordance with the truth. Lallemand, in the cases alluded to above, has evidently mistaken some distinct affections of the prostate, or of the neck of the bladder, for strictures; and there are some facts which prove the assertion of Soemmering and Amussat to be a little too exclusive. I will not quote as of authority the sentence confidently attributed to Sir Astley Cooper by the editor of his lectures, viz. that "most commonly strictures are met with at the commencement of the bulb, at the membranous portion, and in the prostate gland itself."† R. Allan has, however, represented a stricture a quarter of an inch beyond the bulb ‡, and Crosse has given a description and plate of a stricture of the membranous portion; and I have myself, at the Hôtel Dieu, encountered a stricture commencing immediately before the prostate, and extending to the bulb, in place of which was found only pale fibrous tissue. Again, we read in the Bulletins of the Anatomical Society, 1835, p. 12:—"M. Lediberder presented a stricture of the urethra an inch and a half long, and two-thirds of a line in diameter, with a smooth surface, overspread with little linear cicatrices. A greyish oval ulcer was seen in front of the stricture, which was situated in the prostatic region; while behind it the canal presented a surprising dilatation, the apex of which corresponded to the commencement of the stricture." Finally, M. Voltens has related a case of stricture in the prostatic region, with diminution of the prostate to the volume of a nut. The case is not so convincing as the preceding one, for it was not established by an autopsy; yet M. Vottens believed himself justified in concluding it to be as described, after examination by rectum, by the anterior portion of the urethra, by a fistula in the hypogastrium made to evacuate the urine, and after the observations he made in performing lithotomy by the perinæum. §

It is, however, at the commencement of the bulb that strictures are most frequent; here they occur in five cases out of six, according to Ducamp; and even when found in other portions of the canal, this part is seldom altogether free from the morbid change.

[To be continued.]

* Obs. sur les Mal. des. Org. Gén. Urin. 1825.
† Mal. Chir. t. ix.
‡ Œuv. Chir. t. iii. p. 263.
§ Œuvr. t. ii. p. 298.
‖ Med. Chir. Trans. vol. xii.
¶ Mal. de la Vessie, &c. p. 165.

* Leçons, p. 22.
† Lectures, &c. p. 471.
‡ System of Pathology, 1819, fig. 1.
§ Gaz. Méd. 1841, p. 618.

## Original Communications.

### CASE OF ACUTE PLEURISY,

GIVING RISE TO EFFUSION OF A LARGE QUANTITY OF PURIFORM MATTER INTO THE CAVITY OF THE PLEURA.

*Operation of Paracentesis Thoracis, followed by perfect Recovery.*

By G. Grayling, M.D.
Sittingbourne, Kent.

In presenting the following case for publication in the Medical Gaeztte, I do so from the firm conviction that it is one of importance, inasmuch as it shews the success attending the operation of paracentesis thoracis, and is one among the satisfactory cases that may be put upon the list of recoveries. In every medical inquiry, of a nature analogous to the present, the remote result, I conceive, is the point upon which stress should be placed; since it is too often the case that patients get their tickets of discharge from hospitals, signed with recovery, when they only return to their occupation gradually to languish and die. Without further trespass upon your time, I submit the case for your perusal, faithfully detailed from a daily report.

Oct. 20th, 1844.—H. B., aged 51, a bargeman, has been a careful and regular-living man; is of rather a spare habit of body. From the nature of his occupation, is exposed to vicissitudes of weather, and has suffered much from heat and cold during the late tempestuous season. Some time since suffered from an attack of pleurisy, when the usual remedies, venesection and tartrate of antimony, cut short the disease. Has had pretty good health up to the present time, but states that he has been troubled with a hacking cough, accompanied with some pain in the lower and anterior part of the chest, but chiefly in the cardiac region. At present complains of rigors, and the usual symptoms of fever, which has a typhoid character; the mind being affected, and the tongue covered with a thick brown fur. There is some pain in the chest.

Habeat statim pulvis antimoniales cum calomelanos, gr. vj. et post horas quatuor haustus purgans.

The bowels being freely evacuated, the saline antimonial mixture was ordered every four hours. It may here be remarked that the pain in the chest at this early period gave no other stethoscopic sign than some dulness on percussion in the lower part of the thorax anteriorly, and the left side. This was looked upon as probably the result of old adhesions. The following day, however, the symptoms of acute pleurisy became very decided; there was acute pain and great dyspnœa, and, upon applying the stethoscope to the chest at the anterior and lower part, and extending laterally, the friction sound was markedly heard. A large opening in a vein of the arm was immediately made, and after eighteeen ounces of blood were withdrawn, the patient became so faint it was necessary to stop. The urgency of the symptoms was now decidedly relieved.

Applicetur statim emplastrum Lyttæ pollices vi. longum, pollices iij. latum. supra partem dolentem. Cont. Tart. Ant. ad nauseam.

23d.—Pain in chest abated, but still severe.

Applicentur Hirudines xx. lateri sinistro.

Great relief followed the leeching: blood continuing to ooze out from the bites during the whole night. Friction sound still heard. To continue the antimonial mixture. Towards evening hiccough came on, and continued throughout the night. Two drops of hydrocyanic acid, in mucilage, was given, and after a second dose the hiccough stopped. It recurred, however, again and again, and the pulse kept up, being still 120. The pain of the left side gradually somewhat abated, respiration being only heard bronchial and blowing in the upper part of the chest, and the sputa became slightly streaked with blood. Some pain on the opposite side was now complained of; respiration was loud and puerile, owing to the increased activity of the right lung; a blister was applied, and with relief.

Habeat Calomelanos, gr. ij. hora quaque sumenda.

After twelve grains had been taken, the mouth became slightly affected.

The bowels were kept free by the haustus aperiens, and sleep procured at night by the solution of morphia and tartrate of antimony draught. During the day the antimonial mixture was continued with digitalis, and a copious flow of urine kept up. The bowels acted several times a-day. Hiccough continued more or less for several days. An effervescing mixture of carbonate of soda and tartaric acid was ordered, and continued. The patient obtained relief.

31st.—Symptoms seem less urgent; hiccough has abated, but the pulse still keeps up.

Nov. 3d.—Has had a very restless night. Continued much the same the last few days. The breathing, however, became gradually shorter, and nights restless. The operation of paracentesis thoracis became now a question; the accumulation of matter within the left pleura being beyond doubt. The left side was now considerably larger than the right, but no particular bulging of the intercostals was noticed. On the 7th the symptoms appeared less urgent, the pulse being less frequent and forcible. On the 8th the operation was decided upon. On the 9th, however, the symptoms being by no means urgent, and the patient expressing himself better, the operation was postponed till 10 o'clock on the morning of the 10th.

10th.—Has had a very restless night. Orthopnœa more urgent. Preparations were now made for the operation. The patient being supported at the edge of the bed in the erect position, a small incision was made through the integuments between the 7th and 8th ribs, laterally and a little posteriorly. A small exploring trochar was then introduced, and thick, greenish, purulent matter flowed out; the canula being small, a larger one was introduced, and withdrawn after 36 oz. of pus had come away. The patient now became faint, and the wound was closed up by means of adhesive plaster. Reaction soon came on, wine being given, and the breathing was much relieved.

11th.—Has had a very comfortable night. Flutter, quickness, and force of pulse gone; is now soft and compressible. The obvious indication being to support the strength of the patient, nourishing diet was ordered, together with small doses of the ammonio-citrate of iron along with tincture of squill, to facilitate expectoration. Appetite good; bowels and kidneys act well; tongue clean; little or no hectic.

12th and 13th.—Continues relieved.

14th. — Very restless during the night. Can only lie on the side affected. Viscid mucous expectoration continues as formerly, and is got rid of with greater ease since taking the above mixture.

16th.—A restless night. Complains of pain in the cardiac region, with a sense of "hanging," as the patient describes it. Stethoscopy gives evidence of fresh accumulation of matter within the chest. Increased dulness on percussion, it being dull as high as the 4th rib from above, and here respiration is heard bronchial and blowing.

Nov. 16th.—A week has elapsed since the operation of tapping was performed, and the patient having passed a very restless night it was deemed necessary to have recourse to paracentesis again; accordingly, the patient being placed conveniently on the affected side, a trochar was introduced in the same position as formerly; no pus, however, flowed out, but in place of it a small quantity of watery fluid; no air entered the cavity of the thorax; the wound was closed as formerly.

17th.—Has had a good night; appetite good; bed sore much improved; on percussing the chest anteriorly today, the sound, though dull, was of a tympanitic nature, conveying the idea of hollowness, and this so markedly, that the patient observed, "Hollow, sir." This was probably due to the condensed state of the lung, and the gravitation of the matter to the posterior part of the chest. The extremely reduced state of the patient. and the exhaustion occasioned by moving him, deterred us from making a more minute examination with the stethoscope. Respiration could only be heard in the upper part of the chest as formerly.

19th.—Pulse natural; bowels regular; tongue clean; had rather a restless night from nervous excitement, owing in some measure to too many visits from friends.

Contr. Mist. Ferri ut antea.

From this time the patient improved so far as to be able to come down stairs every day. Expectoration, although in no great quantity, continued viscid, and streaked with blood. The legs swelled, and there was a hectic flush which generally came on towards the afternoon. He got small doses of blue pill and squill, and the swelling of the legs diminished; the urine being increased in quantity.

January 19th. — Of late some increased dulness of the left side observed; nights restless; appetite bad. Suffers from hectic and night sweats; has expectorated within the last four days four pounds of greenish mucopurulent fluid; thick, viscid, and streaked with blood. This matter continued to be expectorated for some time, but gradually diminished in quantity, and at this present time the patient is entirely free from cough, and has grown quite stout and strong.

Remarks.—In remarking upon the case, the first point to notice in the first report is, the occurrence of the disease upon the left side, according with the majority of the cases recorded by Dr. Roe; the ratio of this author's cases being as $2\frac{1}{2}$ to 1. It also verifies the remark made by the above author, together with Mr. Macdonnell, M. Fawe, and others, that there is little danger attending the operation of paracentesis thoracis. The operation was not had recourse to till 21 days from the time of first being attacked. This seemed the most suitable period, from the state of the patient; although, I believe, no positive period can be laid down, yet delay after the critical time arrives for the performance of paracentesis diminishes the chance of success. There is little doubt that on the third day from the time of the patient first being attacked, matter began to collect within the pleura, and from its contact with the diaphragm occasioned most probably the hiccough from which he suffered.

In the report of the 15th, the physical signs were evidently those of fresh accumulation of matter within the chest, and the fact of its not being found by the operation of the 16th was no proof of fluid not being present. An opening into the pleura might have been made in another position, but the symptoms not being urgent, and the strength of the patient much reduced, it was not deemed advisable. The subsequent reports justify this decision. Another reason why pus was not evacuated by the second operation might have been owing to adhesions having taken place round the orifice of the old wound, and I have little doubt that it would have been again found had the trochar been introduced between the ribs nearer the spine. It may be remarked, that although no curative advantage could be supposed to result from the second operation, no pus being evacuated, yet the patient had a good night after, as seen in the report of the 17th. This was doubtless mainly due to the mental relief which the patient felt at there being no fresh accumulation of fluid found within the chest. However this may be, the patient continued to improve gradually under the influence of iodide of potassium and sarsaparilla.

From the 2d of Dec. to the 19th of Jan. the patient continued much the same; complained of pains in his shoulders and arms, the backs of his hands being much swollen, and although able to walk down stairs from day to day, still he was unable to use his upper extremities to dress himself. At this time there was a good deal of cough, accompanied with hectic, and the breath had a peculiar fetor, which we looked upon as possibly owing to iodine, having before observed a similar fetor in an individual who took continuously the iodide of potassium. In the report of the 19th of Jan. the amount of the expectoration is mentioned as amounting to four pounds in four days, and the diagnostic inference was, that a communication had taken place with the sac of the pleura by ulceration and opening of a bronchial tube. By a reference to the June No. of the Medical Gazette, 1844, some remarks are made by Mr. Macdonnell upon the frequency with which purulent expectoration occurs along with empyema. It is stated that one patient expectorated in the course of a day a pint of greenish pus, and the diarrhœa under which she laboured was markedly checked; but the post-mortem examination showed the bronchial membrane in a perfectly healthy state, and no trace of a communication between the sac of the empyema and a

bronchial tube could be detected. Now although no communication by a bronchial tube could be detected, it is no proof that such a communication did not exist; and all those who have examined such a mass as the lung, well know the difficulty of determining such a point. I am inclined to think it more reasonable to suppose a large quantity of purulent matter to be got rid of so quickly through an opening in a bronchial tube. In the present case, the first basin of the expectoration contained a good deal of blood, while in the last the matter was thick, greenish, but almost entirely free from blood. In conclusion I have only to add, that the patient is now strong and well, and is likely to continue within reach of my notice as long as he lives, which at present seems likely to be for some time, and should at a future time a post-mortem examination throw any light upon the subject of empyema, it will be borne in mind to communicate it for the benefit of future sufferers, and the advancement of this important branch of medical inquiry.

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## A CASE OF STRANGULATED HERNIA,

### OCCURRING TWELVE MONTHS AFTER OPERATION, AND PRESENTING SOME CURIOUS CIRCUMSTANCES.

By Benjamin Phillips, Esq., F.R.S.
Assistant-Surgeon to the Westminster Hospital.

A. B., aged 73, and in infirm general health, became the subject of strangulated femoral hernia a year ago. She had then the advantage of being attended by Mr. Propert. He requested the assistance of Sir B. Brodie. And all means of reducing the hernia failing, the operation was determined on, and it was performed by Sir B. Brodie.

The recovery was slow, and for some time doubtful. Owing to the low tone of the powers of life, extensive sloughing took place, and sorely tried her strength. Ultimately, however, the recovery was complete, and she was able to wear a truss. But from the general laxity of the abdominal parietes, and from the size of the femoral opening, and from the tenderness of the cicatrix, the reduction of the tumor was only incompletely maintained by the truss. Still she was in a moderately comfortable state, and was able to take carriage exercise daily. So matters continued till the month of February, when the aperient medicines she was accustomed to take did not produce the desired effect; and on a Monday, in February, Mr. Propert was requested to see her. He ascertained that on the preceding Saturday she had a properly formed stool, that on Sunday night she took her pills, that the effect was unsatisfactory, and that, therefore, his assistance was sought. He found her suffering from some abdominal discomfort, which she thought would be relieved by a proper action upon the bowels; he found, also, that no difficulty was experienced by her maid in reducing the protrusion at any time. Various purgatives, including Croton oil, were taken, and enemata used, but no satisfactory relief was obtained. The abdomen became tympanitic, with some general tenderness, the stomach became nauseated, and vomiting followed. All ordinary means having failed, though the symptoms had not become urgent, on Thursday evening Mr. Propert requested my assistance in the case.

At the time I first saw the patient, her appearance was that of a person who had had an ailing life; there was a general delicacy, but not much evidence of present, or even recent, suffering. She complained of much nausea, with occasional vomiting, some thirst, and a good deal of abdominal discomfort. The pulse was soft, weak, and not very rapid (76); the tongue moist, with a light whitish coat. The abdomen was distended, but it bore pressure without much complaint, and the pad of a truss was applied upon the left superior femoral region. Upon removing the truss a tolerably large tumor was presented, the integuments over it being scarred after operation, which had been performed a year before. Very slight pressure upon the tumor caused its contents to pass back into the abdomen with a gurgling noise. The truss was applied; and the conclusion come to was, that an obstruction existed, and the extremely distended state of the transverse colon, and the readiness with which the tumor was reduced, made it probable that the obstruction existed at some point beyond the protrusion.

The prognosis was very unfavourable, and it was determined to employ nothing but enemata, and this the more especially that the most powerful purgatives had been exhibited by the mouth without effect. The succeeding morning came, but it brought no relief to our patient; all other symptoms remained much the same, but the general power had declined; there had been repeated vomiting, but there had been no effectual relief from the bowels. Upon removing the truss the hernial tumor was again apparent; and upon this occasion all attempts (and they were patient and long continued), were unavailing for the reduction of the protruded intestine.

The case assumed, at this time, a character of unusual complication:— how far was the reduction of the tumor complete on the previous night? how far was that portion of the intestine which was protruded concerned in the obstruction? or was the obstruction something independent of the protrusion altogether? The conclusion we came to was, that the obstruction was not dependent on any present constriction of the neck of the sac, that it was, possibly, the slowly developed result of injury done to the intestine at the time when the strangulation had made an operation necessary, or of the pressure of the truss since. Against that view of the case was the probability that the portion of intestine formerly strangulated was ilium, the great gaseous distension of the transverse colon at present, and the comparatively long period which had elapsed without any evidence of obstructed bowel.

In this state of the case, with the conviction on our minds that, if we were not perfectly satisfied that the gut had readily returned into the abdomen on the previous evening, it might have been proper to cut down upon the intestine again, provided the patient's general condition justified it, it was determined, as soon as possible, to obtain Sir B. Brodie's opinion upon this point. In the meantime, as there was reason to think that the enemata were not very successfully administered, we determined to introduce a long tube with a view to give the patient any chance which the proper administration of enemata might afford. I passed the tube of a stomach pump to the distance of twelve to fourteen inches, without much difficulty; but the injection returned by the side of the pipe. The syringe having become deranged when about half a pint of fluid had been injected, another was procured with a new tube, and this could not be passed beyond four or five inches. At seven o'clock we had the advantage of Sir B. Brodie's opinion; he said it was very improbable that the gut was strangulated, at an opening which was made so large by operation; he thought there was obstruction elsewhere; he could see no good which was likely to be derived from operation. His opinion was acted upon, and in the course of the night she gradually sank and died.

On the following afternoon the body was examined; the abdominal cavity was laid open by a central longitudinal incision; from this another was carried in an oblique direction so as to lay open the intestine contained in the sac. We found that although the opening through which the intestine passed was large, it was still small enough to cause a strangulation of the gut, which was of a dark chocolate colour. From that point the intestine was followed until we arrived at the left lumbar region without the discovery of any obstruction. I then observed that the tube had passed far beyond that point, and that it was not probable that there was any obstruction further down: however, the search was continued, and we discovered that the uterus and the rectum were consolidated into a dense fibrous mass, a small cavity existing in each; that of the rectum being barely sufficient to admit a small bougie.

Several curious circumstances are presented in this very interesting case. The almost simultaneous occurrence of a strangulated hernia, and of intestinal obstruction from another cause. The ready passage of an elastic gum stomach tube through an obstruction which did not admit of the passage of any fæcal matter, even when acted upon by enemata.

The probability was very strong that the intestine would not be strangulated a second time at a point which had been so much enlarged by previous operation; the probability became almost a certainty when the tumor was so readily returned; and yet, although little more than 24 hours

elapsed, between the gurgling reduction of the gut, and the death of the patient—the powers of life being naturally feeble, yet the intestine had acquired a dark chocolate colour, and had become strangulated at the old crural ring. Then with respect to the other obstruction the obscurity is not less:—it existed at a time when the gut very readily passed back through a large opening: it was fair to assume that the obstruction was not there unless indeed the gut had been nipped or unduly pressed upon by the truss, and had thus undergone contraction,—but then the distended transverse colon rendered that view of the case improbable, and made the assumption probable that the obstruction was nearer the rectum than the part contained in the hernial sac: but opposed to that assumption was the fact that twelve inches of stomach pump tube was passed along the intestine with comparative ease; and supposing the rectum disease to be one on which the original obstruction depended, how came it that if it admitted a tube of the size of the little finger, it would not allow fluid fæcal matter to pass? for it is the fact that there was no impaction of solid fæcal matter at any portion of the intestinal tube.

Two suggestions here occur: the hernial tumor was very inefficiently maintained by the truss; it was so constantly down that it might have constituted an obstacle, or it might be that the very flexible tube first introduced did not pass through the rectal obstruction at all, but became coiled up in the very extensible rectum of an old woman with very relaxed fibre; for as I have already stated, the more unyielding new tube could not be passed beyond four inches. Whatever explanation may be adopted, I think it must be admitted, that whether the rectal disease constituted the original obstruction or not, it is certain that at a later period another was constituted by the strangulated intestine.

The case altogether deserves to be recorded among the curious cases which the practice of the surgeon not unfrequently affords.

Wimpole Street, March 18th, 1846.

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## OBSERVATIONS ON LIGATURES AND ANEURISMS.

By T. Wilkinson King, Esq.

[Concluded from page 598.]

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Sect. II.—*Some positive effects of ligatures upon arteries—External formations alone seal the ends, and firmly unite the two ends of the vessel, by a cord, the centre of which is, at a certain time, the cell of the ligature about to be cast off.—Collateral circulation a simple necessary result of obstructing an artery; and why?—Analogies between different cases of dilating arteries, physiological and pathological.*

Sir A. Cooper, for femoral aneurism, tied the external iliac with two threads three quarters of an inch intervening. After eighteen years a *continuous* cord, of about two inches long, still connected the conical ends of the interrupted tube.—(Vide Guy's Hospital Reports, No. 1; and Guy's Museum).

Mr. Key, for axillary aneurism, tied the right subclavian external to the scalenus. After twelve years a cord two inches and a half long connected the end of the subclavian with the contracted sac.—(Ibid).

Sir A. Cooper, for aneurism of the internal carotid, placed two ligatures on the common trunk, one inch apart, and fairly divided the vessel between them (blood was already coagulated within). Thirteen years later *all* the great artery was found impervious throughout, its whole length reduced to *one* mere cord.—(Ibid).

In the Museum of St. George's, Mr. P. G. Hewett has preserved a femoral artery on which a ligature had been placed about seven weeks before death. A simple cord full half an inch in length connects the almost bulbous ends of the divided vessel which are well closed in.

A variety of experiments, on dogs, &c., give extensive illustration to the facts here described, and notwithstanding all adverse assertions the bare truth of a closing artery is—clot may be wanting, and all agglutination and approximation of inner surfaces deficient, as well as all thickening, contraction or conification of the tube-coats; external deposit, as it is called, may be extremely scanty; but the only essential and real efficient is a thin capsule

of cellular membrane—a growth whose arrangement is determined as the vessel retracts, and whose substance—mass and texture, depends on the state of the natural fluids.

In my lectures I have long adverted to the fact which probably most museums may illustrate, namely, that after the successful ligature, say of the femoral artery, a cord is formed uniting the two ends of the interrupted channel.

This cord formed external to the thread which surrounds the artery, expanding over and sheathing the cones together with continuous attachments, may in fact be traced in part to the walls of an abscess contracting and being stretched. A like cord may form in stumps, if the attachment or adhesion of the tied extremity of the vessel suffice to give, with the arterial diastole, any considerable tensive actions. Considering the cord of the ductus arteriosus which rather grows, and the umbilical arteries which waste much more decidedly, considering such late sequelæ of ligature on an iliac artery as more or less conic arteries, and a cord ten or thirty lines in length, and considering the cord half an inch long, between two healthy and most abruptly contracted arterial ends six week after ligature of the femoral, I seem to derive ample proof that *tension* is a material and determining element of the process in question beyond what by some will be readily granted. Time and varied illustration, direct experiment or collateral evidence, may yet correct the notions which appear most settled on the subject in hand, and I even anticipate some revolution in the principles now in force relative to ligatures. The healing changes that occur within the tube at the part tied, hardly occupy more space than a mathematical point, for when this point becomes expanded to any extent it is a proof of the deficiency of the so-called internal repair; and the simple fact that the point in question is, for the most part, the only one to which clot adheres, shows that it alone is altered, if not deficient in organization.

It is a much more positive truism than many seem to suppose, that no agglutination of the living surfaces of the tube can occur where blood intervenes, whether fluid or clot.

Again, there is more truth than is very prominent in the assertion, that the part to be healed is but a very small point, and that fortified in a very peculiar manner. The tube is reduced to a cone, and the diastolic pressure within its apex is very inconsiderable, while the sides of the cone have less than their ordinary pressure, more than their usual thickness, and greater support from without by reason of the traction of the ligature. For a given number of days, also, more or less of the contracted vessel is left comparatively undisturbed, to attain a fixed balance between its new cirumstances of tension and its consequent modified state of nutrition. All this, of course, is irrespective of adhesion. Still the closure of a great artery by ligature is, indeed, a wonderful process. A little section sloughs, the next surface on each side is absorbed, and the next seems to contract and heal. The last, whether a long or a short portion of the cylinder, becomes conical or at least rounded. The coagulation of blood is often either questionable or most insignificant.

The cord I have above described is, in part, a measure of the retraction or separation of the divided ends of the tube. The ultimate contraction of granulation, &c., is a part of the healing process; and when an inch of the tube has sloughed away between ligatures and the puckering up of a long abscess, leaves nothing but a ligamentous cord from one wide empty arterial bulb to another, it is not a little indicative of the importance of external contractions.

Occasionally the ligature finally leaves the divided artery with only a solid circular layer of ligament between the two portions of tubes. The retraction of artery in such a case is extremely small, the repair is solid, and after the discharge of the knot a very short cylinder remains, which is concave at both ends, about equal in diameter to the vessel, and formed of threads whose direction is determined by the extensions which operate on each of them. It is by reason of its shortness and free nutrition that this cylinder does not become narrow towards its middle. It is usually attended by some inflammatory thickening and contraction of the tube adjacent,

A stage or two of the process we are considering may be illustrated by aneurisms communicating with a vein, which are well known to be attended with a peculiar state of the adjacent arteries. Just as these vessels empty themselves with morbid facility into a vein* is their normal tension altered and also their nutrition; the veins likewise expand and thicken; and it may be said that of all such cases involving the leg which are submitted to ligature, pretty well one half dies of bleeding, and the other of gangrene. Venesection very rarely leaves more than a minute and harmless arterial puncture.

The state of the arteries of an arm or any part affected with an aneurismal varix, is perhaps sufficiently known; but the cause, though probably not very obscure, deserves further comment. By the arterial trunk at the bend of the elbow discharging a part of its contents into a considerable vein, the arterial distension is, of course, diminished; and somewhat as that in the vein is increased; also, it is in a manner certain that the arterial distension varies in different parts of the affected trunk—at all events the tube, both above and below the venal communication, becomes wide, thin, and weak, in a peculiar manner; and this effect I compare to the transitory effects of ligature for aneurism, to the casual course of inflammation, to the periodic evolution of great organs, and to the effect of hæmorrhages. I have elsewhere shown that deteriorated blood may likewise affect these cases.

A free examination of the various influences of tension in the animal economy (not excluding humoral and nervous agencies), affords some positive data as to disturbing and compensatory acts. A part is nourished according to its use. Pressure exites nutrition; or, if in excess, absorption.

Now, in the aneurismal varix we know the nutrition of the limb is lessened, and the tension which should determine the nutrition of the artery is at least perverted. The varix is expanded and thickened, while the arteries become wide, thin, and weak, and sometimes progressively so to an alarming extent. Hence the unusual mischiefs and disadvantages of surgical measures in such cases, and especially with unhealthy states of the body and blood. Yet close up the opening between artery and vein, and the new tensions lead to more proportionate nutritions.

It will be easy to grant that the safety of ligatures applied for the cure of aneurism requires the free and speedy establishment of collateral circulation, and that this result depends in the main naturally on the simple obstruction of the primitive channel. This same result being well effected, it cannot, I think, be denied, that the tied vessel is in much better circumstances for final closure. Next, let us consider broadly the physical conditions of the part ligatured, independently of clot, adhesion, &c. Say that up to the twelfth day the thread exerts sufficient compression to prevent bleeding, and to promote healing. If need be, let the observer force himself to define the measure of longitudinal retraction of the tube, as well as of its circular spontaneous contraction, and for so much the vessel is of course the thicker and the stronger to resist diastole.

In the next place, let him endeavour to picture to himself the diastolic energy, as giving rise day after day to just so much renutrition of the obstructed end as to effect its persistent resistance to all dilatation. Whatever value be given to these matters of fact, they cannot, I think, be denied. Cones or bulbs, such is a real part of the course of obliteration. Suppose a cone mathematical — the interior of the apex is, I presume, devoid, or all but free of diastolic influence; and the surface continuous, or immediately adjacent contracted (in all dimensions, and thick and compressed), is, no doubt, under very favourable circumstances to resist a much smaller share of fluid pressure than it had before naturally sustained.

The general and undue estimation of certain sequelæ of ligature demands but little comment from me. The clot is most irregular and uncertain, the larger the more indicative of general disease; and it is only contraction of the tube that makes the largest fit

* William Hunter, if not John, first saw this. Breschet says venous blood gets into the artery and weakens it; but the blood-tension as well as the thrill, plainly indicates that the current is *continuously* in one direction, or from the artery.

closely. Inflammation of the tunics is very casual, and fibrin on the lining is rare and useless, if not pernicious, as all diffused inflammation is. The thickening, narrowing, and contraction of the artery is inflammatory and incidental, and may be useful or fatal.

Blood or lymph, within or without, becoming organised, is, as to proof, but empty theory, and only in the way.

I am disposed to attribute a great degree of useful effect to the contraction of granulations around the sealed tube, and the formation of the cord of connexion much corroborates this opinion; but I advert to this result of ulceration now in order to point to the inflammatory action and tumefaction of a subjacent stratum which affects the state of the cones more closely, early, and importantly; for a time arrives when the vessels are about to be left to themselves, when the conification is unsettled or unfinished, and when the thread compression becomes less and less, and it may at least be supposed that now the clot and internal adhesions, such as they are, require support most urgently.

While the ligatured vessel forms a hollow cone opposite to the natural tide, it is to be ever remembered that the newly dilated collateral tubes present an increasing, and even, perhaps, an exaggerated cone, for the reception of blood; so that the stream is freely diverted while the resistance at the seat of the ligature is great, compound, and increasing.

I very long ago demonstrated the view, that the obstruction of a main artery empties and weakens all the vessels beyond, and that this is the ready cause of the rapid and measured restoration of the collateral circulation in ordinary cases. My present wish is briefly to remark in what manner this and the foregoing views generally appear to affect the modern practice of tying arteries; that is, with regard to the danger of hæmorrhage. The modes and degrees of physical tension, of humoral nutritions, and even of nervous influences, must be freely analysed to explain each arterial process—healthy or morbid.

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## ON THE USE OF THE OXIDE OF SILVER.

By Butler Lane, M.R.C.S.

Ewell, Surrey.

The object of the present paper is to afford a general abstract of the results which have been derived from the employment of the oxide of silver, during a period of more than five years, with such modifications of my original views on the subject as reflection and experience have dictated. In the form of nitrate, silver had long been a remedial agent of much estimation both for internal administration and external appliance, when the substitution of the oxide suggested itself to me.* I was then led by careful observation and extended research to ascribe a much wider range of medicinal influence to the metal in question than had heretofore been acknowledged; and I experience some gratification in the conviction, that in the oxide of silver I have been able to introduce to the profession a most useful remedy, which from its peculiar character possesses great therapeutic value. I am indebted to the kindness of others for much evidence in favour of the medicine, which emboldens me to urge it on the notice of the profession, and renders me confident that it will fully realise every fair anticipation in its favour.

I am fully convinced that the essential therapeutic action of silver is directly sedative; that it is to be borne in mind that a state of excitement or irritation to a certain extent should exist to indicate the appliance of the remedy; and that it is only by allaying such excitement or irritation, that debility, local or general, which is so

* In justice to myself I may mention that at the first period of my inquiry I was totally unaware that the oxide of silver had ever been employed, and it was only subsequently that I ascertained that it had been tried, together with the different salts of silver, by M. Serre, of Montpellier, in syphilis, and that apparently with unsatisfactory results. M. Serre's publication does not allude to the use of silver in any complaint except syphilis; it affords no rationale of the action of the medicine; the mode of preparing the oxide is not specified, and indeed the mention of that preparation is but slight. I therefore claim as my own any credit that may attach to the introduction of the oxide of silver as a remedy of general utility.

frequently co-existent therewith, is obviated; an indirect tonic effect being produced, which is often considered as the primary action. In a paper published in the Lancet of June 22, 1839, I essayed to demonstrate the existence of what might be termed a *reflecto-sentient nervous function*, through the medium of which any excitement in the nervous system of organic life may be manifested in the sentient nerves of animal life; not in those of the affected structure itself, but in others at a distinct relative point. By such a theory we arrive at some elucidation of the mystery yclept sympathy, which has ever been a subject of speculation with medical philosophers. It is in some of these abnormal conditions that we shall find the sedative action of silver as an internal remedy peculiarly evinced. By Dr. Golding Bird, the oxide of silver is termed an "*organic sedative*," which seems to me a very fit and appropriate designation, and one that will exactly define the therapeutic action I believe the medicine to possess.

I consider the oxide of silver to hold the same relationship to the nitrate that calomel does to corrosive sublimate, and that the protoxide of antimony does to tartar-emetic. I believe that the medicinal action is in some ratio to the degree of oxidization, and certainly that may vary unless due precaution be adopted in the pharmaceutical preparation. Moreover, should any salt, especially an alkaline one, be retained in combination, that will materially affect the solubility of the medicine, and may even cause some degree of causticity to be retained. The nitrate of silver has undoubted efficacy as an internal medicament, as well as an external appliance, but in the oxide we have a milder and more manageable remedy: one which will obviate peculiar morbid states over which no other medicine will exert a direct curative influence.

I shall first speak of the external appliance of the oxide of silver in the form of an ointment or powder. In cases of irritable ulcer its action is highly beneficial, and it is decidedly much preferable to the nitrate, where the stimulant caustic action of the latter is not required. In many cases we know that the primary destructive causticity is prejudicial, giving a stimulus to the morbid absorbent tendency. In the external forms of ophthalmia an ointment of oxide of silver of the strength of a drachm to the ounce, will often exert an influence extraordinary in its rapidity. There can be no doubt that such a preparation is well nigh analogous to Mr. Guthrie's "*black ointment*," which he is in the habit of using with so much success for the purulent ophthalmia of children. The same ointment is made with the nitrate of silver, but it necessarily becomes rapidly converted into an oxide by the mode of preparation. I cannot give better instances of the efficacy of the medicine as an external appliance than in three cases kindly furnished me by my friend, Mr. Allen, of Epsom.

"A man had an unseemly pimple on the upper lip. It was of large size, and purple colour, close to the septum narium. A kind of ichor oozed from it, dried, and formed a scab, which was rubbed off from time to time. He was in the habit of taking snuff, and thought it aggravated the complaint, which had existed upwards of five years, notwithstanding the use of several applications. A mercurial alterative and some saline powders were administered, and the ointment of oxide of silver was gently smeared on the part night and morning. The cure was complete within a month.

"In a young woman an ulcer had formed on the centre of the cornea, with much thickening and congestion of the eyelids. There was but little pain with the application of the oxide of silver ointment softened to the consistence of thick cream by the addition of olive oil. The ulcer soon healed up without leaving any speck, and the chronic inflammation of the eyelids completely subsided.

"A little boy, three years of age, had the conjunctiva of one eye in a state of extreme congestion with œdema. The blood-vessels were so numerous and turgid that the whole of the conjunctiva covering the sclerotic was uniformly red. The eye watered much, but there was no intolerance of light nor pain, although it was quite a recent and sudden attack. The ointment as before mentioned was applied by the aid of a camel-hair pencil. It caused some smarting for a short time, but, within an hour afterwards, the redness

had so completely disappeared, that one could hardly distinguish which eye had been affected. The same morbid state of the eye reappeared the following day, and was again removed by the same application."

I will mention one other case out of many which have occurred to me lately as illustrative of the efficacy of the oxide of silver as an ophthalmic medicament. A woman, aged 56, applied to me with a highly vascular state of the palpebral and sclerotic conjunctiva. There was intolerance of light, lachrymation, and much aching smarting pain, with a sensation of gravel in the eye. I at first gave her some aperient and alterative medicine, and directed the frequent application of saturnine lotion, and subsequently one of acetate of zinc, but without advantage. Three applications of oxide of silver ointment, however, on following days, effectually remedied the disease: the vascularity was completely reduced, and the eye was rendered quite clear. In ulcers of various descriptions, venereal or otherwise, I am constantly in the habit of using the oxide of silver ointment with much advantage. I find that it best answers the purpose either where there is considerable pain and tenderness, or where there is very profuse discharge, especially in scrofulous ulcerations. With sore nipples I have likewise found it exceedingly useful. I have notes of a great many cases of these descriptions, but shall confine myself to this general notice of them, as their recital would occupy more space in the present paper than I deem desirable.

I now have to speak as to the internal administration of the oxide of silver.

The risk of cutaneous discolouration has always much prejudiced the employment of the nitrate of silver. It is true, that only from the lengthened administration thereof such a disastrous result could be apprehended, but that was a matter of no little import, when the employment of the remedy being chiefly confined to epileptic cases, extended through a lengthened period. Now, the nitrate is a soluble salt, very easily converted into a chloride by the action of the free hydrochloric acid of the gastric juice. This is taken up into the circulation, and from its chemical affinity for albumen, and by the action of light when conveyed into the cutaneous surface, it is partially decomposed, being in part reduced to a metallic state, and in part converted into an oxide; perhaps even it becomes an albuminous compound. In this state it cannot readily permeate the capillaries, or we might expect it to be removed at a future period like the bile in jaundice: the silver, however, remains indelibly fixed, nor am I aware of any recorded instance of its perfect reabsorption. From experiments which I have performed, the simple oxide of silver does not appear liable to be affected by the hydrochloric acid in such a state of dilution as that of the gastric juice; neither has albumen the same affinity for the oxide, nor the same instantaneous action thereon, which we find in the respect of the soluble nitrate. From these circumstances, therefore, I anticipated that silver in the peculiar intermediate state of an oxide would have no special affinity for the cutaneous structure. Two cases have, however, been reported to me where discolouration had resulted during the administration of the oxide of silver. In one of these cases the remedy had been prescribed by an eminent physician in half-grain doses during a period of more than twelve months. I cannot, however, consider that such a continuous exhibition of the remedy was judicious, nor was it desirable under general therapeutic rules; for we know, that in a lengthened administration of any remedy a temporary discontinuance at intervals is advantageous, not merely to obviate accumulation in the system, but also that the medicinal influence may be renewed, and not nullified by the power of habit. The other case of discolouration was but slight. Whether in these instances the oxide of silver employed had been prepared according to my own published formula, I am unaware. I have administered the remedy in upwards of 500 cases, and have never met with such a mishap; though in two instances an undeniable, though peculiar salivation, indicated the constitutional influence. I certainly feel confident that the risk of cutaneous discolouration is very far less with the use of the oxide than with that of the nitrate of silver. I am, however, inclined to attach even more importance than heretofore to the pro-

cess of obtainment, and am induced to urge the careful avoidance of the presence of any foreign salt, as also too great a degree of oxidization. I now use a higher degree of temperature than formerly in the preparation, and am satisfied that the medicine has proved milder with more graduate action.*

That excellent man, and accomplished physician, whose loss we must long lament, the late Dr. James Johnson, informed me that from its first introduction he always prescribed the oxide of silver in epileptic and other cases where he had formerly been in the habit of ordering the nitrate, and he considered an equal advantage to have been derived from its employment, at the same time that it was more extensively available from being less irritating. As far as my own experience in epileptic cases is concerned, I am inclined to consider that both the nitrate and the oxide of silver are fallacious remedies. As Dr. Golding Bird remarks, epileptic cases do not in themselves afford a fair criterion as to the efficacy of any medicine, so great a proportion of them depending on organic lesion of the brain, &c. I may, however, mention that one case of epilepsy of fourteen years' standing came under my care, in which during the space of two months *(as long as the use of the oxide of silver was persevered in)* the disease appeared completely suspended, and the health was very materially improved by the use of the medicine. The patient subsequently relapsed. I have a case of twelve years' standing at present under treatment with oxide of silver with decided advantage. The fits were in abeyance more than two months, though previously of weekly recurrence, and the health is decidedly improved.

The past experience of the utility of the nitrate of silver, and that which has hitherto attended the employment of the oxide, certainly entitle them to a trial in the distressing affection in question, and the minor probability of discolouration which attaches to the use of the oxide must certainly claim the preference in its behalf. I believe that the beneficial influence of silver as well as that of other remedies for epilepsy depends much on the collateral treatment, which requires constantly a careful superintendence. Moreover, it is not from a brief course of the remedy that the eradication of a long persistent morbid habitude is to be expected, not even when advantage has been obtained from the commencement. Many cases have apparently been cured after the nitrate or oxide of silver has been given merely for a month; the patients have then relapsed into the malady subsequently to the discontinuance of the remedy, and it is consequently said to have failed: but here was an error; the beneficial effect should have been considered as the guarantee of an ultimate cure, and not as the cure itself, which I believe, in long-standing cases to require, at least twelve months' treatment.

I usually recommend the oxide of silver to be taken, in the first instance, at the rate of one grain per diem, divided into two or three doses, and variously combined. I have carried the daily administration up to six grains, but never in dyspepsia or menorrhagia. But, even the oxide of silver should not be given continuously for many weeks together. I consider that there should be an interval of some days in the course of every month, for the reasons which I have already assigned, and the doses should be moderate, increasing gradually.

I next have to speak of the influence of the oxide of silver in restraining undue secretion, whether of sanguineous character or otherwise. I have known it arrest epistaxis: in one case, where the hæmorrhage was almost of daily recurrence in a young chlorotic female, I have seen it exert some influence over hæmoptysis, though I cannot speak very positively in its favour. In the profuse purulent expectoration and colliquative perspirations of phthisis I have found the employment of the remedy attended with considerable temporary advantage. Of its efficiency in restraining hæmatemesis I have met

* There has been much difference in the samples of oxide of silver, which have come under my notice, and I know that formulæ have been adopted different from that which I recommended for the preparation originally. It is certainly of importance that the medicine should be of uniform standard, and, for the reasons I have stated, that there should be some variation from the procedure first resorted to. I have therefore requested Mr. Cooper, of Pall Mall East, to undertake the preparation of the oxide of silver; he has taken some trouble to effect my wishes respecting it, and from him it may be procured genuine.

with several instances, and in other gastric discharges I have had abundant evidence of its efficacy. In very many cases of hæmorrhage from the bowels, dysenteric or otherwise, the administration of the remedy has proved highly serviceable. In one instance, a man, æt. 40, suffered much from time to time with copious discharges of blood and purulent matter per anum, apparently connected with disease of the descending colon. The oxide of silver in half-grain doses twice or thrice a day acted most beneficially on two occasions within the last twelve months in restraining the hæmorrhagic discharge, and in abating the purulent secretion: it also had much effect in allaying the general irritable condition of the stomach and bowels, and an irregular state of the heart's action, which I understood had been previously attributed to organic lesion, though evidently a mere sympathetic affection. In mucous and bilious diarrhœa, when become idiopathic and not merely symptomatic of undigested aliment or hepatic congestion, the oxide of silver is an unfailing remedy: it is, however, desirable to combine it with a small proportion of opium where spasmodic pain exists. In a case of obstinate chronic diarrhœa of many years' standing which came under my care, the oxide appeared to be the only remedy which possessed any restraining power: it would always abate the intestinal secretion, but as the affection was connected with long standing disease of the liver accompanied by chronic jaundice and dropsical tendency, much caution was required in the use of the remedy. I have on several occasions found much advantage in the employment of the oxide of silver in the form of diarrhœa consequent on typhus fever, and doubtless connected with an ulcerated state of the intestinal mucous membrane: we know that this diarrhœa, which is often dysenteric in its character, constitutes not unfrequently the most urgent symptom towards the later period of the disease, and one for the abatement of which neither opiates nor astringents will act kindly. It is, however, in uterine discharges that the effect of the oxide of silver is most remarkable; it exercises an almost invariable control, apparently indicating a specific uterine influence. I have, in my former papers, related several cases illustrative of this fact, and have of late years had much further experience as to the influence of the medicine in the different forms of menorrhagia, &c. and consider that when used with due precaution it is well nigh infallible. Where the hæmorrhage is of secretive character, occasioned by local excitement, it is that the oxide of silver will produce the most decided effect. When, on the other hand, the cause is chiefly mechanical, from the rupture of blood-vessels, the same advantage will not attend its employment. Speaking generally also, I believe that where an hæmorrhagic tendency is connected with an imperfect stasis and abnormal tenuity of the blood, the beneficial influence of opium, lead, and tannin, will be found far superior to that of the oxide of silver.

[To be continued.]

## VALENTIN ON THE FUNCTIONS OF THE NERVES OF THE ORBIT.

*Translated from the Latin,*

By John F. France,
Assistant-Surgeon to the Eye Infirmary, Guy's Hospital.

[Continued from page 556].

### Part IV.

#### THE RETINA AND CILIARY NERVES, AND THE MOTIONS OF THE IRIS.

*Structure and evolution of the retina.—Constituents of the organs of sense, preparatory and sentient—Laminæ of the retina — their endowments. — Nervous supply of the palpebræ, and of the lacrymal and Meibomian glands—Position of the globes in sleep—Origin and nature of the ciliary nerves.—Importance of the contractility of the pupil—its contraction not voluntary—conditions under which it contracts—former observers of pupillary contraction upon division of the vagus and sympathetic nerves—detail of the author's experiments upon this subject—review of their results, and the inference—dilatation of pupil regulated by filaments of cervico-spinal, conducted through carotid and ciliary nerves—General antagonism of the nerves of the orbit.*

Every nerve of sense* exhibits a peculiar ganglionic structure at some part; and the optic nerve is not an

* Vide §§ 190 et 184, textus Latini.

exception to the rule; for, although no such character is apparent either in the chiasma, or the further course of the nerve through the cranium, it is nevertheless developed in the retina itself, a particular stratum of the membrane being produced in consequence. The history of embryonic evolution explains this peculiarity. The optic nerve is at first hollow, with a tumid sac at its extremity; which subsequently, upon the formation of the lens and vitreous body, has its anterior wall depressed, and so comes to surround these structures as a reduplicate membrane, with a space between its layers,—in the same way as the pericardium encloses the heart. The cineritious bulb of the olfactory nerve, which also has originally a saccular construction, is secondarily filled up entirely or in great measure; and in the same way, this cavity of the optic nerve (being much smaller on account of its inversion) becomes occupied by a substance of ganglionic nature.

Every organ of sense is supplied with a ganglion, which facilitates the motions of its external parts, and assists their performance harmoniously with the action of the corresponding nerve of sense. Thus, the spheno-palatine ganglion belongs to the organ of smell, the otic to that of hearing, the maxillary or lingual to that of taste, and the ophthalmic or ciliary to that of sight.* Yet it is pretty certain, from microscopic examination, that none of the ciliary nerves unite with the primitive fibres of the optic nerve and retina; but such of them as most closely approach the latter must be considered either as nerves of the vessels, or as going to certain parts of the globe, and merely running in proximity to the other nervous fibres.†

The organs of sense agree with the agents of common sensation, in consisting of a portion truly sentient, by which the impression, when perfected, is conveyed to the brain; and a 'preparatory' portion, which arranges and aids the impression to be received by the former: but as the powers of these organs are peculiarly delicate in nature and extent, both of their constituent portions are proportionately complicated; and the more so, the greater the importance of the particular organ. Thus, as respects the eye, the parts which direct and modify the external impression, and are therefore immediately 'preparatory,' are the vitreous body, the lens, aqueous humour, and cornea; but there are besides other parts the actions of which favour its progress and perception, and which may be termed mediately preparatory,—as the iris, Crampton's muscle in birds, the muscles of the globe, and the eye-lids.

The sentient or nervous portion of the eye constituting the retina is similarly complex, being composed of four laminæ; viz. a globulose stratum, most internal,—next a stratum of nucleated globules,—then one of primitive nervous fibres,—and externally a verrucous layer, or Jacob's membrane. The nature and powers of these are apparent in the evolution of the embryo. The internal granular and the external verrucous laminæ seem analogous; for they form the parietes of the original cavity of the retina already described, which contains a fluid, and may be compared to the ventricles of the brain. When this cavity becomes obliterated, there are found in its place the primitive nervous fibrils and the nucleated globules; and its parietes, the most external and internal strata of the retina, then diminish greatly in thickness. The primitive nervous fibres, as we have previously stated, are possessed of but an indefinite visual energy: the remaining laminæ must therefore be devoted to purely objective vision, or objective and subjective vision conjointly; and this is proved by the fact, that in cases of blindness these laminæ are destroyed, if the retina is paralyzed, so that objective vision is totally lost; but still remain, when there is disease of the preparatory parts only, preventing access of light to the retina.

As it is of course impossible to ascertain by experiment in what manner each particular stratum acts, I may be permitted perhaps to offer an hypothesis on the subject. Now the nucleated globules of the retina are so disposed, that impressions of light from without, received by the inner stratum, before reaching the primi tive nervous fibres, must traverse thes e globules; it seems probable, therefore, tha they promote the centripetal

* § 185 text. Lat.
† §§ 240, et seq. text. Lat.

progress of such impressions, and contribute to the diversity of the resulting objective phenomena.* The globulose internal lamina, and the verrucous external one, stand in relation to the fibres of the optic nerve somewhat as muscular to nervous fibres; they receive the optical stimulus upon the minute individual points of their structure, and impart an impression of the whole to the primitive nervous fibres; the globulose lamina receiving the direct rays of light, and the verrucous those reflected from the choroid. Both the globules, therefore, and the verrucous bodies, as it were touch the light, and examine it by touch; just as the cutaneous papillæ of the fingers are compressed by contact with external objects, and communicate to the nervous fibres of sensation the excitement thereby occasioned; and hence the size of the globules and verrucous bodies of the retina may be determined by that of objects which are just visible. It may be that their action has reference to the quality of the images; and that the distinction of colour is assisted, or partly effected by them; and if so, we can readily explain how persons of otherwise excellent sight sometimes driscriminate colours imperfectly, or are quite incapable of distinguishing them.

It is clear from Magendie's observations on the human subject and animals, and my own, made on rabbits, that the retina is not sensible of pain. The ciliary branches accompanying the central artery, though probably containing some fibres of sensation, are so minute, that no effect is perceptible from them; nor do they affect the retina, except remotely. It is likewise evident that the retina does not produce any motion directly; for no alteration of pupil occurs, after the optic nerve is separated from the brain, upon irritation of its peripheral portion or of the retina: we shall presently, however, find, that this nerve does excite reflex motion of the iris.

The external parts of the globe influence vision more or less indirectly in two ways, either contributing to the integrity of parts indispensable for objective vision or preparing the eye for various degrees of light and distance. The lacrymal, like every other conglomerate gland, receives fibres both of sensation and motion, contained principally in the internal branch of the lacrymal nerve; for by the junction of this nerve with the ciliary ganglion, motor fibres from the third are in all probability guided to it. These filaments of sensation and motion serve for the normal secreting action; and for the reflex motion of the ducts of the gland, and discharge of the secreted product. Thus Magendie* noticed excessive lacrymation in men, the fibrils of whose lacrymal nerve he pricked with a needle; and so, on the other hand, after division of the fifth, or its lacrymal branch, the surface of the eye becomes drier, because the sentient fibres of the lacrymal gland being paralyzed, the reflex motion of the ducts is prevented, and the excretion, as well as the secretion, diminished. The lacrymal, or tensor tarsi muscle, which draws the puncta lacrymalia nearer the sac, receives fibres of sensation from the infra-trochlear branch of the naso-ciliary nerve, and motor fibres principally from the zygomatic branches of the facial. Some fibres of sensation likewise come off from the infra-trochlear nerve for the lacrymal sac; and perhaps motor fibres are also conveyed to it by the free junction of the inferior branch of this nerve with the pathetic.

The palpebræ possess a double supply of nerves and means of motion: the orbicularis muscle having motor fibres from the facial nerve, by the temporal and zygomatic branches; and fibres of sensation from the fifth, by the lacrymal, supra- and infra- trochlear, frontal, and supraorbital branches of the ophthalmic nerve, and by the subcutanous malæ of the superior maxillary: but the levator palpebræ superioris is supplied by the long branch of the superior division of the motor oculi, which originally contains both motor and sensitive fibres. This diversity of nervous supply is rendered conspicuous in the varying symptoms of diseases; for ptosis takes place when the superior division of the third nerve is paralyzed; yet the patient, though unable to raise the superior palpebra, closes and covers the eye perfectly; and performs properly all

* § 227 text. Lat.

* Physiol. vol. i.

the functions which depend on the orbicularis muscle. On the contrary, when the facial is paralytic, the lids cannot be completely closed; for though the superior palpebra descends, yet every endeavour to close the lids, still leaves a transverse portion of the globe, at the inferior part, uncovered. Lastly, as the sensibility of the conjunctiva and palpebræ is given chiefly if not altogether by fibres of the trigeminal nerve, if this latter or its two anterior divisions be cut through or paralyzed, all or nearly all sensation in these parts is extinguished.

The Meibomian glands receive fibres of sensation from the fifth, and motor filaments principally from the facial; so that they are closely concerned in the integrity, and diminution of their secretion follows the lesion of these nerves. Since, then, on the division of the fifth, both the Meibomian and lacrymal glands secrete more sparingly, the dryness of the surface of the globe and arid state of the epithelium of the conjnnctiva generally after this operation, are intelligible phenomena.

It has been already stated that the muscles of the globe are briefly divisible into two sets, or as it were semicircles;—a superior and external one, consisting of the superior and external recti, and the superior oblique; and an inferior and internal, comprising the inferior and internal recti, and the inferior oblique;—that the former is supplied by the superior division of the motor oculi with the abducens and pathetic nerves, and the latter by the inferior division of the motor oculi;—and that dilatation of pupil is connected with the action of the superior and external circle, and diminution with that of the inferior and internal. It has also been explained how the various motions and directions of the globes are determined: it now therefore only remains to speak of the remarkable position of the eyes during sleep. Whilst the eyes are being closed for sleep, the globes are directed involuntarily upwards and inwards, so as to converge upwards; and the pupil is contracted. In a little while, however, a very different position of the eyes is found, to which Tortual* has very properly drawn attention in some men, both globes being moved upwards and outwards; not, however, to the external canthus, but stopping, as it were, midway: in others, one eye obeying this outward and upward impulse more than the other. Now in the former class of persons an upward divergence of the eyes takes place, which if not extreme, (though it may be so), yet is such, as is never produced voluntarily; nor does it correspond with any movement of the eyes during their employment in vision. While the palpebræ are being reopened, or the person is awaking, oscillation of the globe, first inwards, (or inwards and upwards), and then outwards, supervenes; and by this alternation, more or less frequently repeated, the eyes gain and preserve a position corresponding to the nature and distances of the objects beheld. Now these facts seem explicable upon the theory propounded above, for as the superior and external recti, and the superior oblique, are the more voluntary, and answer to extensors; the internal and inferior recti more involuntary, and analogous to flexors; and these muscles are in a certain degree of antagonism; so, whilst falling asleep, both globes at first converge upwards (by means of the two inferior oblique, with or without the internal recti), just as flexion of the extremities takes place, at the same period. As, however, the antagonism of the superior oblique is immediately excited, divergence takes place; but this is nevertheless always less marked than it would be if the superior oblique and external rectus were acting alone; and is always more or less overcome by the contractile force of the inferior oblique. It may well be supposed that this contest, so to speak, of antagonizing muscles, varies, accordingly as we dream or not; or, as in different individuals, the voluntary or involuntary action of the muscles of the globe prevails.

The ciliary nerves which enter the globe, being derived almost directly from the motor oculi and fifth, carry to it both motor and sentient fibres; but the former does not supply motor fibres only, nor the trigeminal exclusively fibres of sensation. Anatomical examination shows that some of both classes of these nerves go to the iris, (and in birds to Crampton's muscle),

* Ammon's Monatsschrift, 1838.

and some to the vessels and other structures contained in the globe; and comparative anatomy demonstrates that, where few motor filaments enter the iris, the ciliary ganglion is less developed,—a circumstance easily explained from what has been elsewhere stated, respecting the automatic motion of the iris, and the nature and powers of ganglionic structure. That the motion of the iris is of the highest consequence in objective vision, has not escaped any observer, and is evident from several circumstances:—1. The larger the pupil is, the greater is the number of luminous rays entering the interior of the globe, unintercepted and unreflected by the iris. 2. When the iris is not properly contractile, and the pupil is dilated, the eye becomes quite unfitted for seeing distinctly at different distances. The contraction of the pupil is intimately connected with the action of the retina, and inferior division of the motor oculi nerve. 3. The images become more distinct and defined in proportion to the narrowness of the pupillary aperture,—a fact directly demonstrated by the artificial apparatus of Walker* and Gerber:† on this account, when the pupil is dilated by belladonna or hyoscyamus, distant objects are seen indistinctly, and with coloured margins. 4. Lastly, the more the pupil is dilated, the more are the peripheral portions of the crystalline lens used in bending the rays of light; whence aberrant refraction ensues.

The movements of the iris produced by irritating it, like those of all other organic muscular fibres, take place but slowly‡; and they are involuntary alone, as we have already proved. A great many persons, indeed, as Zinn, Toracca, Fontana in some degree, Adams, Doemling, Magendie, and Palmedo, controvert this position; yet, except the arguments already related, nothing is adduced which in the least countenances the supposed voluntary power over the iris. Magendie, in the first volume of his Physiology, states that the pupil is capable of voluntary undulation, which, I candidly confess, I have never seen. Palmedo imagines he proves the truth of this opinion by the following circumstances:—"There are," says he, "two phenomena tending no little to establish the voluntary motions of the iris, because only explicable upon this supposition. We have already said, that when there are two pupils, the lateral one dilates in the light, whilst the central one contracts; and contracts in the dark, whilst the central one dilates. But if the central pupil is closed by synizesis, and the marginal pupil only remains, and if the preceding inflammation has not entirely destroyed the natural structure of the iris, it has oftener been observed that the marginal pupil no longer dilates, but contracts in the light, and dilates in the dark, like the original but destroyed central pupil. It is perfectly clear that these contrary effects of light can only be interpreted by admitting an intervening mental influence. There is another circumstance no longer questionable; namely, that the pupil of persons afflicted with central leucoma of the cornea (not exceeding the size of the pupil), gradually recedes from its natural situation, even its natural form (though the iris, as shewn by its unchanged aspect and healthy motion, is free from disease); and withdraws from its central to a lateral position in the iris, where it may more easily evade the impediment offered by the cornea to the transition of light." The opposite effects, displayed in the normal and marginal pupil, necessarily happen in the case of every muscle which contracts in the manner of a sphincter: but if the central pupil is obliterated, it then presents a fixed point, of which the margin of the lateral pupil was previously destitute; so that the latter becomes capable of more easy and regular contraction. The case of cen

* Schmidt's Jahrb. vol. ix.

† This consists of a paper bladder, perforated in the centre in front and behind, containing a glass bladder filled with alcohol: the anterior foramen may be converted into a larger or smaller pupil at pleasure. Now the smaller the pupil is, the smaller are the images, though proportionately delicate, well defined, and free from adventitious colouration; but the larger the pupil the more undefined and coloured are the images, though of greater magnitude.

‡ It is fair to infer that Crampton's muscle in birds contracts more quickly, because it is made up of compound muscular fibres. Whether the vacillation of iris observed in many birds, especially parrots, is partly or altogether produced by this muscle or not, vacillation of another kind, not unfrequently seen in dropsical eyes both of the human subject and horse, is certainly caused by too large a quantity of aqueous fluid being effused about the iris, which consequently vacillates, at its free pupillary margin, upon any motion of the globe, or other mechanical cause.

tral leucoma prove still less, because the pupil is dilated by the shadow of the leucoma itself; and the person, in order that the rays of light may enter, turns the eye laterally; and thus, by moving the muscles of the globe, excites indirectly an alteration of pupil at first only momentary, but soon becoming habitual and permanent. But all these movements, in whatever way produced, are widely different from voluntary actions.

[To be continued.]

REMARKS ON SCROFULOUS DEGENERATION OF THE KIDNEYS. BY PROF. SCHOENLEIN.

THE symptoms in the early stage of the disease have often a great resemblance or analogy, in the mode of their development, to those which usually indicate the existence of tubercles in the lungs. The constitution exhibits the marks of a scrofulous temperament, and the patient—not unfrequently a boy or girl of from seven to ten years of age—is always more or less ailing, especially after exposure to cold or any irregularity of diet. Complaint is made of an uneasy feeling in the loins; and, when a more particular inquiry is made, it is discovered that the uneasiness is felt, not in the course of the spine, but rather on one side of it. There are frequent calls to pass the urine, especially when the weather is cold and chilly. This frequent desire is often greatest during the night (just as we observe to be the case with the cough in tubercles of the lungs), and the child may therefore be apt to wet his bed during sleep. The urine at first has been observed to be pale and clear, or partially opaque and troubled, from an admixture of mucus; this comes from the bladder; and it is well known that, in the early stage of pulmonary phthisis, the sputa are at first from the trachea. As the disease advances, a more decided pain is experienced in the renal region, and then the urine may exhibit marks of an admixture of blood with it: here, again, we have an analogy to the hæmoptysis so frequent in the second stage of pulmonary tubercle. If the patient be arrived at the age of puberty, there will perhaps be erections, and crampy pains in the scrotum at the same time. Hitherto the renal affection may be amenable to medical treatment. With respect to the treatment, local blood-letting, the iodurret of potassium, or mercury (rubbed in upon the loins), the use of salt baths, and of a mild unirritating diet,—these are the principal means to be employed. When the disease is further advanced, we can only relieve symptoms.—*Med. Chir. Rev.*, from *Schoenlein's Clinical Lectures.*

# MEDICAL GAZETTE.

FRIDAY, APRIL 10, 1846.

THE following remarks on the present state of the Fellowship question appeared in a contemporary journal* a few days since:—

"At present the fellowship is worth next to nothing. It does not distinguish the pure surgeon from the general practitioner or the accoucheur, or the man who practises his profession as a profession from him who carries it on as a trade; nor, owing to the mode by which the list of fellows was filled up, is it regarded as affording a test of professional merit. As a stimulus to induce students to pass a more severe examination than that for the mere membership, it has most signally failed. All circumstances combine to render it imperative on the Council to take immediate steps for justifying themselves with their brethren, and for giving them reason to be attached more strongly than ever to the College. Let all the members at the date of the last charter be, if qualified, eligible to the fellowship; let the admission to it be confined to those whose practice makes the nearest approach which the requirements of the people will permit to pure surgery, and let the Council be the body to admit to the fellowship. A charter containing these provisions would be acceptable to those whose good opinion it is most desirable to have."

The fellowship, as it is now filled, is certainly neither a test of professional merit nor of professional standing. The list of fellows undoubtedly contains a large number of men eminent as surgeons; but many deserving members of the College have been excluded

* Times.

by the mode of selection (not election) originally adopted. We believe this to be a truth well known to some members of the Council, and we trust that their sentiments may ultimately induce the majority to revise their proceedings by speedily procuring a supplemental charter. The advice given by our contemporary is judicious, and if followed it would go a great way to quiet the discord which has for some time past existed in the profession, and which will continue to exist so long as matters are allowed to take their present course. It is quite a mistake to suppose that those who feel they have been unjustly passed over, will submit to be examined for the fellowship by a body which contains many of their juniors, not merely in standing, but we will venture to affirm in professional knowledge and experience. We do not believe that the examined fellows belong to the class of members who consider themselves to have been unjustly treated. We wish to say nothing disrespectful of men who have chosen to receive the fellowship upon terms which appear to us to imply an approval of the proceedings of the Council, aud a perfect indifference to the feeling of indignity which has been plainly and most publicly expressed by a large number of their professional brethren. To have submitted to this examination, they must have assumed that the Council were right in the course they had taken, and the great majority of the profession wrong; or if they did not entertain this opinion, their thirst for the premature acquisition of a nominal title, and a paid-for honour, must have prevailed over their better judgment. We believe that their conduct in submitting to an examination for the fellowship, has been most decidedly attended with this evil effect: it has induced the College to resist the invitation of the Home Minister to procure another charter; and in the Council itself, it has been a serious obstacle to the influence of the minority, who have long desired to adopt a more liberal line of conduct towards the members at large. Our contemporary asserts, that as a stimulus to induce students to pass a more severe examination than that for the mere membership, the plan of the College has most signally failed. The Council may reply to this, that, with respect to students, it has not yet been sufficiently tried. We feel, however, confident, that it has not answered the purpose of inducing those to present themselves who believe that their names were most unjustly passed over in the two first lists of fellows; and we think it would be only fair that with every fresh list of examined fellows, we should have an announcement of the dates of their diplomas as members.

While the majority of the Council profess to scorn the "apothecaries," we could point to the list of present fellows, selected by themselves, and show, that although they had not perhaps the license of the Apothecaries' Society, some among them have all their lives practised as "utter apothecaries," and have chiefly obtained their living by the retailing of draughts and pills:—while other members, who were unfortunate enough (if we may use this term in reference to the loss of the fellowship), to hold the Apothecaries' license, but who had never acted as such, were excluded; the mere possession of this very license, having, we believe, been regarded as one, and a most important, ground of rejection from the first lists prepared by the Council.

But it is assuredly a grand mistake to suppose that the present agitation concerning the unequal and unfair distribution of the fellowship, is confined to "mere apothecaries," as a large section of the profession has been contemptuously termed. The "mere apo-

thecaries" have no claim whatever on the College, and take no part whatever in the matter:—it is among the possessors of the College diploma, that the feeling of discontent exists: and in this class, we do not hesitate to affirm that there are many men as respectable and perhaps more deserving of the honour than others, whose names were taken in 1843 not by an *ad valorem*, but by a random selection. The very fact that the Council have already admitted by examination members as fellows, proves that there are among the class, according to their own decision, men deserving of the fellowship. They might go a step further, and reflect whether among those who will not, from a proper feeling of self-respect, submit to be examined by a body comprising persons of lower standing in the profession than themselves, there are not some who ought to be at once elected to the fellowship *de jure*. If they treat this feeling with contempt, they should at least consider what would be their own feeling to see juniors promoted over them upon arbitrary rules; and if not appointed to become their examiners, at least to constitute that body from which their examiners would be selected! It is a matter of regret that the *argumentum ad hominem* can seldom be made to reach individuals, and still more rarely, corporate bodies; or, on the mere proposition by a minority of the Council, to revise their proceedings, there would be a unanimous disposition to inquire into and amend what was really unjust and indefensible.

The suggestion of our contemporary at the present time, is well worthy of the consideration of the Council of the College. Let all members at the date of the last charter be, *if qualified*, eligible to the fellowship. One ground of qualification should undoubtedly be a certain standing in the profession, say of twelve or fifteen years: and to get over the alleged difficulty of drawing a distinction between those who are practising apothecaries, and those who are not,—a difficulty which the Council does not appear to have experienced in drawing up their first lists,—let the admission to the fellowship "be confined to those whose practice makes the nearest approach which the requirements of the people will permit to pure surgery." We verily believe that a charter containing these provisions would be acceptable to those whose good opinion it is most desirable to have; and further, that it would at once put an end to all agitation.

It has been rumoured that should the Council carry out a plan of this kind, they will impose a fee on the new fellows thus tardily admitted. We do not believe that such an injudicious proceeding will be adopted: it would be tantamount to opening a shop for the sale of the fellowship diploma; and were such a principle recognised by the Crown in the Charter,—with what face could any minister propose to abolish the rights of those who had become physicians by purchase of Erlangen and other easily acquired degrees? The body of qualified members claim to be *admitted* upon the same terms as those who have been already *selected*. The payment for a fellowship diploma under the new Charter, would at once give rise to a disgraceful distinction; it would not meet the difficulty nor remove the discontent which at present exists: for many who would accept the honour as a fair compromise, would decline taking rank as "fellows by purchase."

It has been contended, that the admission of a class of fellows without payment would be an act of injustice to those who, since the Charter, have acquired the fellowship by examination and by the payment of fees. We cannot admit the correctness of this reasoning. Those members who have thus sub-

mitted to be examined, were fully aware that the great body of the profession protested against the proceedings of the Council; and if their impatience for the honour, did not allow them to wait for an adjustment of the differences between the College and its members, this can constitute no fair ground of complaint against the free admission of others, who declined to be examined because they considered themselves to have been throughout unjustly excluded. In proceeding to the examination, the contented members knew that, if successful, they would have to pay for the honour; and therefore it appears to us that they have no right either to claim a return of fees from the College, or to expect that others, entirely differing from them in opinion, should be bound by their acts. Besides, we have yet to learn, whether the examined fellows are men of that number of years' standing in the profession which would really qualify them for admission to the fellowship.

In these remarks, we are animated by no hostility to the College of Surgeons: on the contrary, we wish to see the Council place themselves right with the profession. That they have given offence to a very large number of the members is a fact which cannot be disputed: that they have committed an error in their mode of filling up the lists of fellows, must be obvious, when we consider the wide-spread discontent to which it has given rise. The equity of their proceedings must surely be questionable, when it is considered that they have led to the formation of associations, numbering some thousands of professional men;—that they have led to a proposition on the part of the Government to found a new College, which would have virtually deprived them of all control and influence over the profession;—that they have induced the Minister to declare in Parliament he would advise the granting of a Supplemental Charter by the Crown on their application;—and finally, that they have created a division in the Council and among the fellows: so that the persistence in what all these signs prove to be a wrong course, rests at present with a bare numerical majority. Opposition may be carried further on one side, and bitter hostility still further manifested on the other; but is it right or seemly that a contest of this kind should continue? To us it appears that unless a remedy be speedily applied by the College, it can only end in the degradation and dismemberment of the profession.

## Reviews.

*The Hunterian Oration.* Delivered at the Royal College of Surgeons, on the 14th of February, 1846, by W. Lawrence, F.R.S., Surgeon Extraordinary to the Queen. 8vo. pp. 68. London: Churchill. 1846.

The Hunterian orator for the year 1846, has recently afforded a very practical, though by no means a very felicitous, illustration of the truth of the principle, that, whenever a man has, through any rashness or mismanagement of his own, involved himself in a hopeless dilemma, his only chance of escaping with anything like impunity depends upon his power of remaining perfectly at rest until the occurrence of fortunate circumstances shall conduce to his extrication, or the lapse of time shall have entirely directed to other objects, the attention of those who were the unpitying witnesses of his embarrassment. Unless he can at once take steps which will wholly blot out from remembrance the acts which have led to his disaster—unless his fault be of such a nature that it may be freely and ingenuously acknowledged, and as fully and faithfully pardoned—every violent attempt which he makes to extricate himself merely adds to the difficulty of his position; and the entire load of exculpations, apologies, palliations or defiances, which he employs for his defence, has no other

effect than that of adding tenfold to his embarrassment, and, like the armour of Fiescho of Genoa, of sinking him still deeper and more hopelessly in the slough.

This has most certainly been the case with regard to Mr. Lawrence and his oration. Had that gentleman been willing to publish merely a few words of apology for the injudicious expressions which he lately uttered in the theatre of the College of Surgeons, we are confident that the profession would have willingly allowed the matter to pass from their remembrance; or even had he permitted the affair to remain as it was, without further comment or attempt at aggravation or excuse, it would merely have afforded material for a great deal of indignant but transient surprise, and some angry recrimination; and then the oration might have gone to its rest among the multitude of forgotten things. But the author has chosen to take the injudicious step of publishing this offensive discourse, and has thereby proved that the objectionable expressions which he used, were not the results of momentary excitement or irritation, but were, undeniably, the real declarations of his confirmed opinions.

Mr. Lawrence has, besides, most ill-advisedly published this discourse with an apology affixed to it! If an apology was really required for the expressions used, it becomes altogether annulled by the subsequent repetition of those expressions; but if, on the contrary, the orator's opinions were of a kind which he felt himself justified in maintaining and publishing, he should have put them forth boldly and confidently. It appears to us that no man is justified in entertaining and coolly publishing sentiments to which he is compelled to prefix an apology.

Allowing this matter to pass, we must devote one or two remarks to the language of the apologetic introduction to the oration. After expressing regret that passages of this address should have given offence to any of his professional brethren, and stating that he had not expected they would excite such feelings, inasmuch as his remarks were directed only to what have been always considered fair subjects of inquiry and discussion—namely, the constitution and proceedings of public bodies—Mr. Lawrence proceeds to employ an argument which we regard as absolutely unique in logic; namely, that, as no observations on the Royal College of Surgeons of England, *of whatever character* [the italics are ours], would have given *him* the slightest annoyance, he had not anticipated that his arguments or expressions could be offensive to any portion of an audience, none of whom could be supposed unfriendly to that freedom of discussion on public questions, which is the best means of exposing error and establishing truth. Who can regard such a declaration as this without feelings of unqualified astonishment? Can any one of Mr. Lawrence's colleagues in the Royal College, conceive that he is so careless as he declares himself to be of the reputation of an institution in which he himself occupies a high and responsible position? Can any one of his friends for a moment entertain the belief that our orator has succeeded in arming himself with such a vast amount of stoical philosophy, as to be enabled to listen to observations, of *any character whatever*, upon the class to which he belongs, without experiencing the slightest annoyance?

If such opinions could be entertained for an instant, they would be, at once, dispelled by the orator's reference, in the succeeding paragraph, to certain remarks published some time since by the Society of Apothecaries, in which that worshipful guild is stated to have reflected with unjust severity upon the examiners of the Colleges of Physicians and Surgeons. These sarcasms have certainly been viewed by Mr. Lawrence with no forgiving or oblivious spirit; and to them we must probably attribute a considerable proportion of the antipathy with which he evidently regards every variety of the genus "apothecary." Mr. Lawrence, however, should have reflected that the offending "Statement" and "Address" did not emanate from the whole class of the "Apothecaries" of England, whom he has indiscriminately assailed; and he should have considered that the hide of the tutelary rhinoceros at Blackfriars, is too thin to protect the entire body of hapless licentiates against the lashes of his cutting sarcasm.

The introduction, however, conveys one announcement which we believe will be received with much satisfaction,

namely, that none of his colleagues in the Council knew beforehand the subjects or arguments of this address, for which, therefore, he declares himself to be solely responsible.

Considering the peculiar and somewhat unpleasant position in which the Council of the Royal College have for a long time stood with regard to a large number of the members, it is, of course, perfectly clear that nothing could have been more ill-judged, more ill-timed, or in worse taste, than such an oration as this. We are confident that not one of those who looked forward to the Hunterian oration, anticipated such a line of argument and defence for the conduct of the College as Mr. Lawrence has adopted. It might have been expected that, providing the speaker had been of the number of those who strenuously support the opinions which are attributed to a majority of the members of the Council, he would not have hesitated to state those sentiments plainly, but with mildness; and to have argued and defended them with those declarations of the strong conviction which ever governs conscientious men even when their acts are censurable. Had he, on the other hand, entertained the views of the liberal minority, the tenor of his remarks would probably have been of a conciliatory character, tending to promote mutual confidence and good will among the members of the institution :—or he might have adopted the yet safer and the more appropriate course of devoting his remarks entirely to the memory of Hunter, and to scientific matters. Neither of these courses has been followed by Mr. Lawrence :—he has devoted his oration almost wholly to three points, which we shall consider very briefly in succession.—A sketch of John Hunter's career, a florid eulogium upon the Royal College of Surgeons, and a severe attack upon those who were desirous of forming a "Royal College of General Practitioners," interspersed with reflections, of by no means a very flattering character, upon the general practitioners, or, as Mr. Lawrence is anxious to style them, the "apothecaries" of this metropolis.

The anecdotes of Hunter are not particularly novel, and have no remarkable interest, if we except some extracts from letters by Mr. Clift, inserted in the appendix, which breathe throughout a spirit of judicious and faithful kindliness, the pleasing effect of which is not a little enhanced by the strong contrast they bear to the other parts of this pamphlet.

Under the second head of his discourse, Mr. Lawrence has undertaken to prove that the Royal College "has been faithful to its great trust," mainly by representing the liberality (?) which the Council have shewn in providing for the members a stately edifice in Lincolns' Inn Fields; and in expending a large portion of their revenue in the enlargement of the library and museum, as well as in selecting and maintaining certain gentlemen whose scientific researches have reflected honour alike upon themselves, the College, and the profession. Now the whole of these arguments would have doubtless been found perfectly valid, had the Council been accused of misappropriating the College revenues, of allowing the museum or library to fall into decay, or of intrusting them to curators who were incapable or remiss in their duties. But we need not say that no such charges as these have been made by the great body of the profession; and that the line of argument adopted does not afford the slightest answer to those charges which really were preferred against the Council during the recent discussions respecting the Fellowship and Medical Reform. We regret that we are not able to congratulate the orator upon the peculiar strain of highly-wrought eulogium, with which he has celebrated the praises of the College of Surgeons. Had he merely stated, in forcible and unaffected terms, that the Hunterian museum is one of the finest in Europe, and that the gentlemen who are connected with it, are men of profound anatomical knowledge, and almost unrivalled perseverance in scientific research, we believe that the united voice of the profession would have confirmed his opinion; but, when we find these praises amplified and reiterated in a variety of forms and in styles of absurdly laboured compliment, the effect produced is likely to be altogether the reverse of that which the orator intended.

To the ill-judged comments upon the class of general practitioners, which occur in various parts of this oration, we shall not attempt to refer at any length. The opinions of one who

does not hesitate to show that he entertains prejudice against any large order of well-informed and respectable men, are not likely to be regarded as of much importance; but we cannot refrain from quoting one argument, which affords a very singular contrast to the author's style of reasoning whenever the College of Surgeons is his theme. He informs us, that the "apothecaries of London are the parties" who are endeavouring to establish the proposed College of General Practitioners; and proceeds to reason, that "they who aspire to so high a mission, will be expected to produce their credentials" to show that they are qualified for so arduous an undertaking.

"Satisfactory evidence on this point (he ironically remarks) would be afforded by their contributions to the transactions of learned Societies; such, for example, as those of the Medical and Chirurgical Society. . . . By their labours in teaching anatomy, physiology, medicine, and materia medica; by evidences of practical talent in the offices of physicians and surgeons to hospitals or other public institutions."

It would be difficult to say whether the shallow argument or the sneering spirit of the above passage is the more indefensible. We leave it as it is for the consideration of those numerous members of the College of Physicians who have begun their career as general practitioners, or in Mr. Lawrence's language, as "apothecaries;" and who may feel ambitious for preferment in the new college.

We have not entered into this discussion with any wish to retaliate upon the author for his ill-timed and ill-judged oration, but from a feeling that we owe it to the profession to place his reasoning and his assertions in their proper light. We are willing to believe that Mr. Lawrence did not intend that his remarks should altogether bear the construction which others were compelled to give them: he has evidently removed from his printed oration many of those strong and unguarded expressions which formed the most salient blemishes of his speech. Much allowance too must be made for certain peculiarities of thought and manner. The striking contrasts of strong apology and fierce attack, of biting censure and unbounded praise, of which this address is wholly composed, must be regarded as the fruits of that description of mental idiosyncrasy which renders its possessor entirely incapable of "doing things by halves;" and which leads him, instinctively rather than wilfully, to despise and spurn at the good old Dædalian maxim, which teaches the value of moderation in all things. We do the author no injustice when we state that we trust the remembrance of this oration will speedily pass away from the minds of the profession; and, should the sight of his pamphlet convey an unpleasant impression to the feelings of any surgeon, let him at once conceal it under a little tumulus of the professional works of William Lawrence.

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*Die Krankheiten der Nieren und die Veränderungen der Harnsecretion von* P. RAYER. *Aus dem Fransösischen in das Deutsche bearbeitetet von* DR. S. LANDMANN Erlangen, 1845.

*Diseases of the Kidneys, and on Morbid Changes in the Urinary Secretion.* By P. RAYER. Translated into German, by DR. S. LANDMANN. Erlangen, Enke, 1844. Imp. 8vo. pp. 631.

THERE can be no doubt, that although the German medical press teems with original publications, there is no country in which a more untiring spirit for the translation of foreign works exists. All kinds of English and French works, good, bad, and indifferent, appear, soon after publication, in a German dress; and we think the German medical student must have enough to do if, besides mastering the standard works of his own countrymen, he is also expected to be acquainted with one half of those which are thus assiduously done into German. By these remarks we do not intend to convey any censure upon the labours of Dr. Landmann; on the contrary, we think that the work of Rayer cannot be too extensively known;—but the question arises, whether those who are likely to refer to such a work as this are not able to read it in its original language. It is a sort of encyclopædia for a special class of diseases, most useful for reference to the advanced practitioner; but, from its very copiousness, unfitted for him who has to study his profession.

We have been particularly pleased with that portion of the volume comprising the first hundred pages, which

refers to the abnormal changes of the urine in disease. The pathological chemist will find, in the various sections, a very excellent summary of the present state of our knowledge on this subject. The useful applications of the microscope, in aid of chemical research, have not been omitted; but we cannot compliment the author upon the execution of the plates attached to the volume.

We do not find that Dr. Landmann has added any original matter to the work. It cannot, however, be looked upon as a bare translation, for many of Rayer's observations and annotations, which did not appear to the translator to have any particular bearing, have been struck out. We think it might have been even still more reduced, with advantage to the German practitioner, for whose especial use it is of course intended.

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*Practische Anleitung Zur Erkenntniss und Behandlung der Ohrenkrankheiten, ein Handbuch der practischen Ohrenheilkunde.* Von Dr. MARTELL FRANK. Erlangen. 1845.

*A Practical Introduction to the Diagnosis and Treatment of Diseases of the Ear, or Manual of Aural Surgery, with wood-engravings.* By Dr. MARTELL FRANK. Erlangen, Enke. 1845. Large 8vo. pp. 424.

WE learn from the preface that Dr. Frank was induced to publish this elaborate treatise, from the fact that, since Kramer's work appeared, there had been numerous improvements in this branch of surgery, and that the work of Lincke was unfinished. Kramer has already removed the force of this objection to his large work by recently publishing an appendix, which we shall shortly have occasion to notice. Nevertheless, we welcome the appearance of Dr. Frank's Manual, because it furnishes an additional proof that aural surgery is assuming the rank of a science in Germany; and that our medical brethren in that country are determined to rescue the treatment of aural diseases from the hands of quacks and charlatans.

In the small space which we can devote to a notice of a work of this extent, we can do little more than point out the method in which Dr. Frank has treated his subject. In a neat introduction, the author presents us with a sketch of the history of aural surgery, from which we learn that Englishmen can take little credit to themselves for its present improved condition. He then proceeds to treat his subject in two sections, the first comprising symptomatology, while the second includes the various forms of disease which affect the external and internal ear.

On the whole, the different branches of the subject appear to us to be very fully and satisfactorily treated. The chapters on diagnosis and treatment are copiously illustrated with numerous cuts of the different kinds of exploratory apparatus, and of the different machines which have been invented to relieve partial deafness. If the author commits a fault, it is that of leaving his reader to draw his own conclusions respecting the relative value of these instruments, instead of guiding him by the results of his experience. In this book, however, the practical aurist will find a complete history of the present state of aural surgery.

Materials have been collected from all quarters, and they are arranged in a form which adapts them for ready reference. The work has an entirely practical character. Dr. Frank has not attempted the vain task of making an aurist of every practitioner; but he has simply aimed at bringing together well-ascertained facts and doctrines, so that any one who is moderately versed in his profession, be he physician or surgeon, may be enabled to proceed upon rational views, in the treatment of these diseases.

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### CONNECTION OF DIARRHŒA WITH DENTITION. BY M. BOCHUT.

OF 110 children cutting their teeth, 26 did not suffer from indisposition of any kind; 38 were restless, had stomach-ache, and purging, which continued for a very short time; while 46 had abundant diarrhœa. In 19 of these latter, diarrhœa came on whenever the gums became swollen, and ceased when their swelling abated, recurring with the appearance of each tooth, while nothing of the kind was observed in the intervals. In the remaining 28, in whom the process of dentition was very laborious, the diarrhœa was persistent, and assumed by degrees the characters of inflammatory diarrhœa, terminating in enterocolitis. — *Man. Pratique des Maladies des Nouveaux-Nés, et des Enfants a là Mamelle*, and *Brit. and For. Med. Review.*

# Proceedings of Societies.

## WESTMINSTER MEDICAL SOCIETY.

April 4, 1846.

MR. HANCOCK, PRESIDENT.

*Case of Insanity of Fifteen Years' standing, with Effusion beneath the Dura Matter, and the Formation of New Membrane.*

MR. FISHER related the following case:—

W. P——, the son of a gentleman of fortune, at the age of eight years, then at Winchester School, received a severe concussion, by the blow of a cricket-bat or ball, followed by immediate symptoms of insanity, from which he recovered for a time, but soon after was brought to London, labouring under aberration of mind, and then came under his (Mr. Fisher's) care for the first time. He recovered, and went into Devonshire with his friends; had a relapse, and was placed under private medical care for eight years. He was then brought to town, and again became Mr. Fisher's patient, labouring under the same malady. The history given of him during the eight years was, that he had occasional attacks of insanity, lasting two, three, four, and five months, with considerable lucid intervals. He was then sent a short distance into the country, under his superintendence, for a period of five or six years, and for the last two years and a half to Messrs. Stilwell's establishment, Moorecroft House, Hillingdon. It was remarked that each attack increased in duration and violence, and there was generally a lapse of eight or twelve months between them. He was a fine, handsome, healthy, muscular young man; to a common observer, merely weak in intellect, and childish in manner; loquacious, but without delusion; his appetite voracious. He was fond of reading the lighter works of literature; played well at chest, billiards, and whist, and was capable of great bodily exertion, frequently, when in health, walking twenty miles a day.

The premonitory symptoms of each attack were marked by fulness of habit, lowness of spirits, sullen, dogged manner, and loss of appetite; pugnacity, and cruelty to animals, of which, at other times, he was fond. He had a religious turn of mind, would write sermons, and had a most retentive memory. During his insane attacks he would repeat passages from Scripture for many successive hours, and quote poetry. When in health, amiable and kind-hearted, and he was very susceptible of the tender passion.

The last insane attack commenced in May, 1845, and continued, with occasional intervals of a few days' tranquillity, until the middle of December, a period of seven months, when he rapidly recovered. and, from extreme prostration, he resumed his usual fulness of habit.

January 3rd, 1846.—His last illness commenced with a violent pain over the forehead, accompanied by a sense of weight, lowness and depression of spirits. He was cupped, and took calomel, with aperients.

5th.—Vomiting came on, with increased pain in the head. Mustard poultices and blisters were applied to the stomach, and calomel frequently given, with relief to the sickness. Cold lotions were applied to the head. During this period the mind was perfectly clear.

9th.—He became so drowsy that it was almost impossible to rouse him, and when this was effected with difficulty, he relapsed immediately into a comatose state. When conscious, he complained of great pain in the head. All his symptoms indicated great congestion of the brain, for which active treatment was resorted to.

13th.—The patient was, in every respect, worse. The right eye turned outward, and the eyelid dropped down; the will having little power over it; the pupil more dilated than the left, but no paralysis of the muscles of the face.

17th.—The symptoms had all been alleviated by cupping, leeching, and calomel, and he appeared to be doing well.

20th.—The right eye had recovered from its paralytic state, and the pain in the head was much relieved, but coma continued, and he was with difficulty roused to take food and medicine.

23rd.—The mercury appeared to be affecting his gums; the symptoms slightly improved. He could get out of bed without assistance, and knew the persons about him.

26th.—He changed for the worse, became feebler, and slept constantly. He continued slowly to sink, and died on the 30th, at the age of twenty-three, not being sensible the last thirty-six hours.

*Post-mortem examination twenty-four hours after death, by Messrs. Stilwell and Fisher.*—Upon sawing through the cranium, the instrument perforated the dura mater, and two ounces of blood escaped, which was caught in a glass; and upon the removal of the calvarium, the dura mater, the pia mater, and arachnoid, were found highly injected. The whole right hemisphere of the brain had the appearance of a bladder of fluid lying under the dura mater, and from it ten measured ounces of grumous blood, containing a clot and some red blood, escaped. The whole of the brain was then removed, and brought to town with the calvarium, and examined, without minute dissection, by Dr. Marshall Hall, Dr. Sayer, and himself, (Mr. Fisher.) The right hemisphere of the

brain was rather less than the left, and its surface was of a deeper colour than usual. The arachnoid could be distinctly traced, from convolution to convolution, over the whole surface of the cerebrum. No effusion had taken place in either of the ventricles. The left corpus striatum, and the left thalamus, were larger than the corresponding parts on the right side. The medullary and cortical substances of cerebrum and cerebellum were well defined and perfectly healthy. It was suggested that the dura mater should be minutely examined by Mr. Lane and Dr. Sayer, and it was taken away by the latter gentleman, Mr. Lane being out of town. It was, without any dissection, examined by Dr. Sayer; and the impression on his mind was, "that the longitudinal sinus was in an abnormal condition; that a gradual separation of the laminæ of the dura mater had taken place, to the extent of several inches on the right side of the falx, by which a large pouch had been formed, capable of containing many ounces of venous blood." The membrane was returned the same evening, Feb. 1st; and on the 22d of March it was very minntely examined, and carefully dissected, by Mr. Hancock, in the presence of Mr. Hird, Dr. Sayer, and Mr. Fisher. The true nature of this membranous pouch then became apparent, and Mr. Hancock gives the following description of the appearances observed:—"The preparation shows a large cyst, formed evidently of adventitious membrane, situated between the layers of arachnoid, and extending the whole length of the right hemisphere of the brain, which has been removed, together with the arachnoid and pia mater. This cyst also extends from the falx major and laterally to the position of the dura mater, covering the outer border of the cerebrum. It does not communicate either with the superior or inferior longitudinal sinuses, the former of which has been laid open to prove this fact; neither does it communicate with the lateral sinuses, but appears to be the result of abnormal action. The bones of the cranium are much thinner than natural, at no part being more than a quarter of an inch thick; but in places consisting of merely the two tables, there is an evident bulging of the right parietal bone, towards its anterior and inferior angle, and here the diploe has been entirely absorbed by the continued pressure of the cyst within. The right half of the frontal occipital, and the squamous portion of the temporal bones of the same side, have been subject to a similar action. It appears that the whole brain must have been pushed over to the left side, and that considerable pressure has been exerted on the left parietal bone, which, towards its anterior and inferior angle, is in places almost deprived of its diploe, although not to the extent of the opposite side; neither does it bulge, as in that situation. The left half of the frontal and occipital bones appears to have escaped this pressure. When the calvarium is measured internally, there is an addition of half an inch in favour of the right side. The left portion of the lesser wing of *Ingrassius*, wth the corresponding anterior clinoid process, are reduced to the thickness of a sheet of writing paper, almost to a cutting edge.

Mr. Fisher remarked, that cases of the formation of these cysts, or adventitious membranes, under the dura mater, were not uncommon. MM. Andral and Foville had noticed them, the latter in the 11th vol. of the "Dictionnaire de Médecine et de Chirurgie," under the head "Meningite," and other French pathologists, as one of the forms of "apoplexie des meninges." Mr. Prescott Hewett, the curator of St. George's Hospital Museum, had brought this subject before the Medico-Chirurgical Society, and had published cases in the *Transactions*. He had shown to him (Mr. Fisher) four specimens, put up by himself and Sir B. Brodie, in the St. George's Museum. It had been demonstrated that these membranes were supplied with secretory and absorbent vessels, which facts accounted for the occasional attacks of insanity in this patient. It was always remarked, that when he became plethoric, the attack came on, and upon his losing flesh and becoming very thin, his reason returned. The cause during life was considered hereditary, his father having been insane from an injury of the brain, resulting from a fall from his horse, two years before the birth of his son. The result of this investigation could not be otherwise than satisfactory to the family of the patient, as it tended to do away with any impression with regard to hereditary predisposition to insanity, as it took us back to the accident when at school, as the exciting cause.

Mr. Stillwell, under whose care the patient had been, said that he had only had one maniacal attack during his stay at the asylum at Hillingdon. This attack lasted seven months, and came on at the expiration of two or three years from his admission. The attack was of the usual kind, and was treated by quiet, occasional doses of calomel, and mild aperients, with large doses of henbane.

Mr. Hewett had seen many such cysts as that before the Society. They were by no means commonly associated with insanity, nor were there, indeed, any symptoms during life which were certainly indicative of their presence. In some they were accompanied with symptoms of apoplexy; in others, of softening of the brain; in others, again, of large and extensive effusions of blood into the structure of the brain.

Two years since, a man was admitted with fever into St. George's Hospital; the fever soon became typhoid, and he became paralyzed. Under the use of calomel, and cupping, he partially recovered, but relapsed in a month, and died. Over each hemisphere of the brain was a cyst as large as the one before the Society. Several similar cases to Mr. Fisher's were in the museum at St. Bartholomew's. With respect to the situation of these cysts, all writers previous to 1834 had described them as situated between the dura mater and parietal arachnoid, but since that period it had been demonstrated that they were situated between the two folds of arachnoid — the parietal and the visceral.

Dr. Sayer read a case from Andral, to shew that that great authority had considered these cysts to be situated between the dura mater and arachnoid.

After some observations from other speakers, having relation to the difficulty of explaining the mode of formation of these cysts, and of their exact situation, the Society adjourned.

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## SOUTH LONDON MEDICAL SOCIETY.

April 2, 1846.

Edward Cock, Esq. in the Chair.

Dr. Munk related three cases of erysipelas, with some remarks on the treatment; first briefly alluding to the interest of erysipelas both in a medical and surgical point of view, and the faithful description given of it by the ancient authors, he remarked that its literary history was perhaps more extensive than that of any other disease of the present day.

The first case was that of a medical man, aged 25, who, January 26th, had a small encysted tumor removed from behind the angle of the lower jaw by Mr. Solly; the attachments of it were rather deeper than had been anticipated: but little blood was lost, and he progressed favourably for some days, when, on the 31st, erysipelas attacked the wound, which was nearly healed: the inflammation extending on the cheek and neck, an incision was made in the part by Mr. Solly, and port wine and decoction of bark were given. Tuesday (Feb. 3d) Dr. Munk saw him in consultation with Mr. Solly; the inflammation had spread over one side of the face, and was of a dusky red hue, the pulse was 120, bowels purged, and there was great anxiety, and slight delirium. Eight ounces of port wine in the 24 hours was ordered, and ammonia with decoction of bark. On the 5th, the erysipelas still extending, the forehead being much swollen and tense, of a dusky red; the pulse still 120, and weaker; the delirium much increased. His forehead was now punctured in several places: but little blood escaped. To take two ounces of port wine every two hours:—there was some improvement towards evening; but, the next afternoon, the patient was decidedly worse; and although the erysipelas had not extended, the tongue was dry, dark brown, and fissured; the pulse 130, much weaker; the whole surface cold, and he lay in a semicomatose condition, his breathing being difficult and infrequent. The port wine was continued, and a drachm of spirits of sulphuric æther given also every two hours; also a turpentine enema was administered: however, towards evening he was sinking rapidly, his pulse having risen to 150 or upwards, and his breathing being at longer intervals, when a neighbour (Mr. Henry) poured down his throat a glass of brandy, which was repeated every hour, with beef-tea and jelly: and, by this means, at ten o'clock the same evening he was much rallied, having become rational, and the dark brown fur on the tongue was gone; the tongue had now become moist; his pulse was also reduced in frequency, and warmth returned to the body. The following day he was better, with the exception of apparent sinking for some time: on the next day (the 8th) desquamation commenced; the pulse was below 90, with more power and return of favourable symptoms, when about 4 A.M. sinking again appeared, soon, however, relieved by stimulants; he continued the brandy in smaller quantities, and had two grains of quinine every four hours. After this time convalescence steadily progressed, and recovery soon took place. The author remarked, that in this case some would have thought there had been too lavish a use of stimuli, but he felt convinced that nothing short of the quantity given would have saved life. The nervous system was at no time unduly excited; on the contrary, the more brandy given, the stronger the pulse became, and less frequent; the other unfavourable symptoms diminishing, and the tongue became moist and clean. This last was most beautifully exemplified on the afternoon of the 6th, at half-past four; the tongue was dry and brown and fissured; at six he appeared dying; a wine-glassful of brandy was given every half hour to the hour, and at 10 the tongue was clean and moist, the dark brown coating gone.

Case II.—A gentleman, aged 32, of a full habit, residing on the borders of Epping Forest, from exposure to cold and wet at midnight, had rigors, throbbing pain in the head, and general symptoms of pyrexia for a few days, when, on the evening of November 26th, he was attacked with erysipelas of the face; there was much thirst; the pulse 92, full, but not hard. Free purging by means

of calomel and colocynth, followed by the haust. sennæ, was ordered, to be followed by the vin. ant. pot. tart. in saline aperients. The next day (27th) the whole of the head became swollen, of a deep red pungent heat; the tongue white and furred; the pulse 92, full, and hard: he had severe throbbing pain in the head, and a feeling of tightness and knocking of the scalp. The bowels had been freely purged. The symptoms indicating depletory measures, a vein was opened, and ten ounces of blood drawn, buffed but not cupped.

To take one quarter of a grain of tartar emetic every three hours, and repeat the purgative pills, and draught.

The next day the head was more swollen, the pulse harder, and at 96. He was again bled to sixteen ounces; the blood now being buffed and cupped.

To continue the saline aperient.

The pulse almost immediately fell to 90, and lost its hardness; the following day the swelling of the head diminished; there was less heat of skin; the pulse 88; he had some hours of refreshing sleep during the night, and from this time he gradually improved.

Case III.—A man, aged 28, Jan. 5th, had been the subject of erysipelas of the head and face for four days. It was of a deep red colour, without much increase of heat or swelling. His tongue was moist, with a yellowish-brown coating; the pulse 108: he was taking ammonia in decoction of bark. On the 7th there was but little alteration, except his pulse was weaker, and the tongue more coated.

To take four ounces of gin in the 24 hours.

Two days after (Jan. 9th) the back part of the neck became affected, the head and face remaining as before; the pulse was 114, weaker, and there was some involuntary catching of the muscles. The quantity of gin doubled.

Jan. 10th.—Next day the erysipelas extended down the back, and the pulse becoming much weaker, with a delirium of the character of delirium tremens, and tremor of the extremities. Although no history could be obtained of his previous habits, yet it was considered a case fit for the use of opium. Twenty minims of laudanum were given and repeated without producing sleep, and the next day there was no improvement; the delirium greater, also the trembling. Forty minims of laudanum were now given, which produced six or eight hours refreshing sleep, and he awoke quiet and collected. In two days the erysipelas was subsiding, the delirium gone, and the tongue dry and brown; he continued the laudanum in doses of twenty minims every night; also the gin, and ammonia in bark: in a few days more he had quinine, and ultimately, though slowly, recovered.

The author remarked, that in the first case, depression was the main characteristic, and stimulants were indicated, and given to an extent of which he had no prior experience; in the second there was excitement of the vascular system, and stimuli were contraindicated, and blood-letting and other antiphlogistics were freely and successfully employed; whilst the third was of a different character, but having some analogy to the second; excitement of the nervous system interfering with the progress of the disease, and the patient was saved by the free use of laudanum. He also dwelt on the different varieties of the disease, and upon the wide difference in the treatment required in them; remarking, that an extensive practice has a tendency to lead to a routine mode of treatment. He believed there was nothing more likely to counteract this tendency than to dwell prominently on the different forms which any one disease may present; and for that reason he had chosen erysipelas; a disease which, as it occurs in London, mostly requires stimulants and tonics, and of this form of the malady the first case might be taken as an example. The second case was an illustration of the disease as it not unfrequently occurs in the country, and as the type of it was some years since in London, having more of the inflammatory character, and in which, although bark and quinine were usefully employed, wine and spirits were seldom admissible.

The third case showed the influence of a deranged state of the nervous system interfering with the disease; a condition which mostly occurs in some part of the course of erysipelas and the zymotic diseases, and in most cases seems to be part of the generally depressed and typhoid condition of the patient: in such cases it requires no special treatment, but is best met by those remedies which allay inordinate vascular action, and stimulate the depressed and failing powers of life. In other cases the disturbance of the sensorium bears no proportion to the other symptoms (there may be no increased cerebral circulation, and no typhoid symptoms), seeming to depend on a peculiar condition of the brain itself, and is an accidental rather than an essential concomitant of the disease; what may be the precise condition we know not, but experience has shewn that it is analogous to if not identical with delirium tremens.

Mr. Solly, in reference to the first case, remarked, that no operation should be performed without previously warning the patient; that, in this instance, exposure to cold

was the immediate cause of the erisypelas, and under-living the predisposing cause; he considered this view was borne out by the after exhibition of stimulants: in alluding to the treatment of erysipelas by acupuncture with the lancet, introduced, he believed, by Sir R. Dobson, he doubted that the benefit derived was permanent.

Mr. Cock remarked, that the first case well exemplified the good effects of perseverance — he considered that many cases would die if the stimulating plan was not persevered in; he inquired of Mr. Solly if he had used acupuncture or incision, as he considered the punctures were often very imperfectly performed, and hence arose the want adequate success.

Dr. Hughes said, that from his own experience, if there was only one remedy to depend on in the treatment of erysipelas of the head and face, that was free punctures, which afforded immense benefit, both in giving immediate relief, and also in arresting the progress of the complaint: if the tension was not lessened, the punctures should be repeated: he related one instance of a gentleman he lately had under his care with ersyipelas, occurring after an accident, whose head and face were enormously swollen and inflamed, producing an extremely bloated appearance, where punctures were repeatedly employed in a free and efficient manner to the amount of some hundreds, followed by warm fomentations, and the next morning the disease was almost gone.

In reference to Dr. Munk's second case, Dr. Hughes remarked, that, during the term of 18 years' connection with Guy's Hospital, he did not recollect a case of erysipelas where venæsection was had recourse to; he had met with many where opium was freely administered. He inquired if any member had seen the tartar emetic exhibited as recommended by Dessault for its specific action.

Mr. Waterworth considered that Dr. Munk's cases were interesting because practical; he had found in his practice erysipelas to be of a mixed nature, and not of the true phlegmonous kind; his treatment was usually not to bleed, but to use tartar emetic, early followed by some tonic, as quinine, which he much preferred to ammonia. In no instance had acupuncture succeeded with him, and he had therefore lately omitted the practice. He had now under his care two cases in which he had used the caustic, which he thought very useful, followed by purges and tonics.

Dr. Munk remarked, that instances of the second case narrated were rarely seen in the metropolis, and although bleeding was rarely admissible, yet it was occasionally required, more particularly in country practice; and his second case might be considered as such, the patient living on the borders of Epping Forest. At the Devon and Exeter Hospital the plan of treatment was first to use one free bleeding, and this was done with success; with regard to tartar emetic he had not used it as a specific, but merely for its depressing qualities, and to carry out the plan aimed at by the venæsection. He had no experience of the treatment by puncture.

Dr. Hughes wished to draw attention to the difference in the forms of erysipelas, and in the treatment required in the town or country. He inquired of Mr. Solly if he had ever used the tartar emetic with a view to cut short the ery sipelas.

Mr. Solly in reply said, that he had no experience of the utility of the remedy mentioned; he was in favour of the supporting system, as so strenuously advocated by the late Dr. Williams of St. Thomas' Hospital.

Mr. Hicks alluded to the propriety of using tonics early in the treatment of erysipelas in London, and considered that, in country practice, the greater number were benefitted by one venesection, followed by the tonic treatment—in his opinion quinine may be given earlier than bark; he agreed with Mr. Solly that punctures did not afford the relief anticipated, but that argenti nitras certainly stops the progress of the inflammation.

Dr. Hughes considered that all forms of this disease were not alike to be treated by acupuncture, which was more especially useful when the skin was very tense and full, not so if it was flaccid and dusky. He inquired if any member had observed benefit derived from the oxide of zinc locally applied.

Dr. Lever alluded to the difference of treatment of cases occuring in country and town, that, in the former, stimulants were never used, but in town almost always, and that, in the country, it never spread. He approved of puncture and the use of the argenti nitras in the solid form.

Mr. Waterworth remarked, in reference to the application of caustic, that, if any part of the border of the erysipelas was not touched, the inflammation would spread beyond that part; he inquired of Dr. Munk if he had seen the vesication of erysipelas contagious.

Dr. Munk was quite at a loss to account for the nature of the disease, as it could not always be traced to contagion, although he has seen many cases contagious in London; he considered that as in typhus the more inflammatory the character, so it was the less contagious.

Dr. Lever inquired whether a surgeon can carry the disease to another patient suffering with an open wound, as it was an undoubted fact that it may be communicated to a puerperal female, and produce

disease similar to, if not identical, with childbed fever.

Mr. Cock said, that many facts tended to the belief that it would, and that it was undoubtedly contagious in hospitals.

Mr. Solly remarked, that ablution of the hands after seeing a patient with erysipelas in the hospital appeared to lessen the tendency to its spreading.

Dr. Chevers bore testimony to the value of puncture in cases of erysipelas attacking the head and face: he alluded to the proposition of applying tinct. iodinii to the surface as a substitute for the argenti nitras; and also to the somewhat fanciful opinion that in removing encysted tumors of the head and face, some of the contents of the opened sac escaped and produced the erysipelas; he had also noticed in several patients who had died of this disease, that the spleen was solid and enlarged, and bore evident marks of recent inflammation. Mr. Nunneley, of Leeds, had also referred to disease of the spleen in erysipelas.

Mr. Cock felt more particularly called upon to bear Dr. Hughes out, as to the great advantage of free puncture in the florid raised form of erysipelas with distension of the cellular membrane; whilst, in the atonic form, as denoted by its dusky dull character, the argenti nitras and iodine were the most useful. He did not advise very large incisions, but that the punctures should be free and efficient to allow of the vessels of the skin being emptied, and also to admit of the flowing of serum from the cellular tissue. He had often remarked a gorged state of the veins of the part, and observed that the free emptying of them afforded immense relief; he was of opinion that, where erysipelas occurs in the extremities, due regard was not paid to the position of the part affected.

The society then adjourned.

At the next meeting Dr. Lever will read some cases, with remarks.

## MEDICAL SOCIETY OF LONDON.

March 30, 1846.

Mr. Dendy, President.

*Nature and Treatment of Purpura.*

A discussion took place on the nature and treatment of purpura hæmorrhagica, arising out of the narrative of a case of this disease by Mr. Stedman, in which the patient, a boy of about ten years of age, had all the hæmorrhage arrested on his mouth becoming slightly affected by the action of mercury.

The questions discussed were the following:—

What is the essential nature of purpura? What is the best treatment?

To these questions the following answers were given:—

1st. That purpura in general resembles scurvy, and consists essentially of a depraved state of the circulating fluid in which there is a deficiency of fibrine. Taking this view of the subject to be correct, after attention to the state of the prima viæ, citric and other vegetable acids were considered as most likely to be productive of benefit.

2nd. The blood was not in itself diseased, but was sufficiently decarbonized, and the disease treated with reference to these points was simple and easily cured.

To these views of the pathology and treatment of the disease, exceptions were taken by other speakers. In the hands of one, purpura had invariably yielded to the employment of purgatives followed by chalybeates, particularly the acetate of iron. Cases were also related in which purpura was attended by a plethoric or congestive condition of the vessels, and yielded to the influence of small blood-lettings, when all other modes of treatment had been ineffective.

The President regarded the discussion as exhibiting the fact of the presence of two distinct and different conditions of the system in cases of purpura. The essential character of the disease consisted in an increased or diminished action of the capillaries. The tonic plan of treatment was usually required; but the remedies must depend on the condition of the patient.

## Medical Intelligence.

### THE ROYAL COLLEGE OF SURGEONS AND THE HUNTERIAN ORATION.

At a meeting of the Royal College of Surgeons of England, held on the 30th of March, the resolutions of the Council respecting the Hunterian oration, adopted on February 26, were rescinded by an unanimous vote. These resolutions, which were proposed without previous notice to the orator, and in his absence, and strongly opposed by some of the most judicious members of the Council, including the respected President, were carried by a small majority, and were confirmed, on the 9th ult., by one still smaller, indeed by a bare majority. When the resolutions had been thus curiously confirmed, the Council determined to do what would have been more proper as a preliminary measure—namely, to ask the opinion of their solicitor on the legality of the proceedings. They soon learned from this gentleman that to propose and confirm resolutions without previous notice expressed in the summons convening the meetings, is contrary to the by-laws and ordinances of the College: that it is inconsistent with the rules of fair dealing, and with the established usages observed by public bodies of gentle-

men, was already obvious. The Council were further informed, by their legal adviser, that the ordinances of the College have specially provided, in a Hunterian committee, for the management of everything connected with the oration and festival; so that the matters to which the resolutions refer should at least in the first instance have been brought before that body. It thus became necessary for the Council to retrace its steps. A retrograde movement of this kind is awkward and unpleasant; however desirable, it could hardly be expected that it should be executed with a particularly good grace. At the meeting of the 30th ult., the members who had proposed and voted for the resolutions, strongly insisted that they were not a vote of censure, stating that they would not have proposed them if they had suspected that they could be so considered, and that they had merely meant to express regret that a controversial subject should have been introduced into the oration. They stated further, that the resolutions, such as they were, would not have been brought forward if the oration and its prefatory advertisement had been published previously, and that they entirely concurred in the opinions of the orator, regretting only that they had been expressed on that particular occasion.

In estimating the relative position of the orator and his colleagues, it is material to observe that Mr. Lawrence, who had already delivered the Hunterian oration, undertook it again at an unusually short notice, and under considerable inconvenience from its interfering with other avocations, at the request of members of the Council, who urged his compliance on the plea that it would be advantageous to the College, and would relieve the Council from a position of difficulty; in short, no one else would undertake the task. Perhaps it would have been more prudent if he had resisted instead of yielding to the flattering importunity.

It may be doubted whether members of the Council will find, in what has happened on this occasion, much encouragement to undertake a duty for the performance of which they seem to have been previously not very eager. The publication of the oration may, however, serve as a beacon to future orators, pointing out the kind of discourse to be avoided in order to escape the risk of collegiate disapprobation.

*** We have taken the above from our contemporary the "*Times*," although the authority for publishing such an extraordinary document is not stated. We have good reason to disbelieve the assertion that the Council of the College *unanimously* approve of the bad taste and bad logic, displayed in the Hunterian oration. The apologetic statement, that the oration was undertaken at an unusually short notice, &c., amounts to nothing in the way of exculpation or defence. The matter is not likely to end here. It would not surprise us if, before going to press next week, some counter-statement should be published by those, who could not have concurred in the opinions of the orator, or they never would have taken any pains to meet and pass a vote on the subject! The truth probably is, that the first vote has been rescinded because it was not taken in due form.

### VEGETABLE AND ANIMAL FOOD.

We learn from a late number of the Gazette Médicale, that a very economical application has been made of the recent discoveries in organic chemistry, by the substitution of a vegetable for an animal diet in hospitals. Some enterprising French chemist has lately announced that beans and peas contain more gelatin, fibrin and fat (!) and in general a greater amount of nutriment, than beef, veal, and mutton! The authorities of the hospital at Avignon, acting upon this view, and with the most anxious solicitude for the well-being of the patients, have cut them off from the debilitating diet of mutton and beef; and, upon chemical principles, have ordered them a more stimulating and nutritious kind of food, in the shape of beans and peas! The presence of a large quantity of *fat* in these vegetables has also enabled them to reduce materially the consumption of olive oil!

Strange as it may appear to those acquainted with modern chemical doctrines, and the accuracy of analyses, the patients have most ungratefully and unfeelingly objected to the change. An antileguminous spirit has sprang up among them, and they persist in declining to be fed upon chemical theory. With the plain facts before them, that chemistry has proved that animal and vegetable substances contain identical proteinaceous compounds, they are unreasonable enough to declare that they prefer mutton and beef! How the matter will end it is impossible to say but we are informed, that in spite of the watchfulness of the hospital attendants, the antileguminous party have actually succeeded in privately smuggling into the institution those provisions which have been denounced as deficient in nutritive matter.

### NEW MODE OF PRESERVING BODIES FOR DISSECTION.

Several years since a patent was obtained by the distinguished head of the medical department of the navy, Sir William Burnett, for a process discovered by him for preserving timber, canvas, &c. from dry rot, mildew, &c. The preserving substance is *chloride of zinc* in solution, and has been proved to be of perfect efficacy, by the most

extensive and long-continued trials. Lately the solution has been applied to the uses of the dissecting-room, and, as will appear from the following testimonials, with the most decided good effects.

14, Golden Square, Feb. 13, 1846.

My dear sir,—It affords me much pleasure to state the result of some experiments I have made with your patent fluid, with the view of testing its value as a preservative of animal structures prepared by the anatomist. This will not require many words. When used in a proper degree of dilution (about one part to fifty of water), its success is complete, and it appears to me to preserve the colour and texture of the parts very admirably. It has the further very important advantage, of not acting on the steel instruments employed, being, in this respect, equal to alcohol. I consider this fluid as a very valuable addition to the means hitherto at our command for such objects.—Believe me, my dear sir, ever faithfully yours,

W. Bowman, F.R.S.
Demonstrator of Anatomy in King's College, and Assist.-Surg. of the King's Coll. Hosp.

*Sir W. Burnett, K.C.H. &c.*

University College, London, Oct. 29, 1845.

My dear Sir William,—I gladly state the result of the trials I have hitherto made of the chloride of zinc, as a preservative of the dead body for anatomical purposes. * * *

The liquor not only prevents the access of putrefaction, but corrects its effects, and arrests its further progress when employed after the process has commenced. I witnessed a most signal instance of its efficacy in correcting offensive putrescence, and checking further decomposition, during the warm and moist weather of July, and can speak most confidently on the point.

We are now trying the qualities of the solution as a liquid for preserving wet preparations in jars, for which purpose I think it ought to answer well. I shall let you know the result of our trials when sufficiently advanced.—I remain, my dear Sir William, yours faithfully,

W. Sharpey.

*To Sir W. Burnett, K.C.H. &c.*

30, Chester Street, March 24, 1846.

Dear Sir William,—I have now used extensively your preparation for the preservation of animal matter, and find that it succeeds most completely.

From the 3d to the 28th February I lectured upon the superior extremity. The arm, when received, was green in colour, and highly offensive. I injected the arteries with the fluid, mixed in the proportion of one pound of chloride of zinc to three gallons of water; and as the dissection proceeded, the surface of the limb was sponged about every alternate day with the solution. It was perfectly restored to its former fresh condition.

I have also placed various portions of the body in the solution, and they at present remain quite free from putrefaction. All our subjects are now injected with the fluid immediately they arrive; and I do not hesitate to say, that our dissecting room is more free from unpleasant odour than any room of the kind in the metropolis; and the great advantage this fluid possesses over all others we have as yet tried is, that it has no effect upon the knives.

I cannot but consider it one of the greatest boons conferred upon the profession. Dissections may be carried on in the hottest weather without the slightest injury to the health, or offence from smell.

Believe me,
Dear Sir William,
Yours very faithfully and obliged,
W. Veralius Pettigrew,
Lecturer upon Anatomy and Physiology at St. George's School of Anatomy and Medicine.

*Sir William Burnett, K.C.H.*

*** At p. 262 of the present volume, there is described a method of preserving bodies by the use of injections of the sulphite of soda and chloride of zinc. From the above testimonials it would appear, that the chloride of zinc alone forms a very efficacious injection. It has not the unpleasant odour of the alkaline sulphites, and is not likely, unless acid, to affect the steel instruments used in dissection.

### BICHAT.

The Academy of Medicine has entered into a subscription for the erection of a monument to Bichat.

### AFRICAN FEVER.

Dr. M'William sailed from Plymouth on the 12th of February last, by order of the Government, to make an investigation into the nature and causes of the fever which affected the crew of the Eclair at the island of Bonavista.

### ROYAL LONDON OPHTHALMIC HOSPITAL.

The election for the office of Assistant-Surgeon to this hospital, vacant by the resignation of Mr. James Dixon, will take place on the 18th inst.

### ST. GEORGE'S HOSPITAL.

Dr. Seymour has resigned his appointment as Physician to St. George's Hospital. Dr. H. B. Jones, late Assistant-Physician, is a candidate for the vacant office. The election for the offices of Physician and Assistant-Physician will take place on the 17th inst.

### SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN IN LONDON AND ITS VICINITY.

A HALF-YEARLY general committee of this Society was held on Wednesday, the 1st inst., at the Gray's Inn Coffee House, Holborn. Martin Ware, Esq., V.P., in the chair.

On reading the minutes, it appeared that two very gratifying benefactions had lately been received.

One of these was a legacy, announced by Thomas A. Stone, Esq., of fifty pounds, bequeathed by the widow of the late Matthew Baillie, M.D., formerly President of this Society. Through the liberality of William Hunter Baillie, Esq., son and sole executor of the testatrix, this sum had been received free of legacy duty.

The other was a donation, presented through Sir B. C. Brodie, Bart., of fifty guineas, from Lord Denman. His lordship, it will be remembered, is the son of the late Thomas Denman, M.D., who was one of the original founders of the Society.

On the recommendation of the Court of Directors, it was unanimously resolved, that William Hunter Baillie, Esq., be elected an Honorary Member, and that Lord Denman be invited to become a Vice Patron of the Society.

The Annual Dinner is to take place next Saturday, the 18th inst., at the Freemasons' Tavern; and the Chairman of the Stewards' Committee, Mr. Propert, drew attention to the importance of *notice being given* by those who intend to be present.

The arrangements have been made in the best possible manner, and a full attendance of the members and their friends is expected.

### QUEEN'S COLLEGE, BIRMINGHAM.

THE Reverend and Worshipful Chancellor Law, the Vice-Principal, has taken up his residence in the College, in order personally to superintend the proposed extended system of Collegiate Medical and Surgical Education. The reverend gentleman has offered to the resident students the following munificent prizes, viz., £50 to the resident student who may carry off four medals; £30, three medals; £7, two medals; £5, one medal. William Sands Cox, Esq., has also gone into residence, in order to assist the Council in carrying out the important arrangements.

### MEDICAL PUBLICATIONS IN FRANCE.

THE prolific nature of the French medical press may be estimated from the fact, that during the year 1845 there appeared in France, exclusive of medical journals (which are about sixty in number), no less than 2,857 medical publications. It is a debateable question whether readers increase in the same proportion as authors!—*Gaz. Med. Chir.*, April 4, 1846.

### LEGACY TO THE PARISIAN HOSPITALS.

A Madame Leucquesaing has lately bequeathed, for the use of the hospitals of Paris, a legacy of 835,000 francs, about £33,400.—*Ibid.*

### OBITUARY.

DIED lately, at Naples, Professor Antonio Nanula, at the age of 66 years. He was an eminent practical anatomist, and the pupil and friend of the celebrated Scarpa. He has done little for anatomical literature, but was indefatigable in the preparation of anatomical specimens. It is stated that his death has been caused by the fatigue and exhaustion brought on by too great a devotion to anatomy.

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### ON THE COLOUR OF THE EYES.

M. PETREQUIN found that in these latitudes the most common colour of the iris was grey. Taking 600 individuals of both sexes he obtained the following results:—

| | |
|---|---|
| Grey eyes | 208 |
| Blue | 100 |
| Light-brown | 144 |
| Brown | 134 |
| Black | 14 |

The brown and black eyes are thus proved to be in a much smaller proportional number than those which are grey or blue.

The same observer found the following results with respect to the colour of the eyes in the two sexes. His observations were made on 489 individuals—352 males, and 137 females.

| | Males. | Females. |
|---|---|---|
| Grey eyes | 134 | 39 |
| Blue | 49 | 29 |
| Light-brown | 93 | 19 |
| Brown | 70 | 45 |
| Black | 6 | 5 |
| | 352 | 137 |

Thus it will be seen that grey eyes predominate among males, and brown eyes among females. The grey eyes are in the sexes respectively as 1 in 2·6 males, and 1 in 3·5 females; the brown eyes are, on the other hand, 1 in 3 females, and only 1 in 5 males.

As a practical application of these remarks M. Petréquin shows, that the old opinion of persons with brown eyes being more subject to iritis and amaurotic congestion, was fallacious. This view had been taken up without reference to the very different proportions in which the various colours of the eyes exist.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *April* 2.—James Wright, East Bridgeford, Notts.—George Holland, Stickney, Lincolnshire.—Thomas Alfred Blomfield.—Philip Pitt Nind, India.—William Bourne, Derbyshire.—Fred. Septimus Tate, Portsmouth.—Horace Henry Button, Eisleham, Suffolk.—Francis Drake Walrond Wheaton, Devonshire.—Edward Cousins, Edmonton, Middlesex.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, Mar.* 28.

| BIRTHS. | | DEATHS. | | *Aver. of 5 yrs.* | |
|---|---|---|---|---|---|
| Males.... | 718 | Males.... | 551 | Males.... | 493 |
| Females . | 694 | Females . | 514 | Females . | 475 |
| | 1412 | | 1065 | | 968 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 149 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 219 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .....(Pop. 374,759) | 166 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .....Pop. 393,247) | 288 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .....(Pop. 479,469) | 303 |
| Total ..... | 1065 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Winters; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 1065 | 1080 | 967 |
| SPECIFIED CAUSES ..... | 1060 | 1073 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 170 | 183 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 157 | 115 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 152 | 169 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 325 | 363 | 294 |
| 5. Heart and Blood-vessels ..... | 30 | 30 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 73 | 69 | 72 |
| 7. Diseases of the Kidneys, &c... | 7 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c..... | 14 | 12 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 8 | 7 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 10 | 2 | 2 |
| 11. Old Age..... | 57 | 90 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 57 | 27 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 7 | Convulsions .... | 25 |
| Measles ..... | 21 | | |
| Scarlatina ..... | 8 | Bronchitis ..... | 56 |
| Hooping-cough.. | 67 | Pneumonia..... | 81 |
| Typhus ..... | 36 | Phthisis .....136 | |
| | | Dis. of Lungs, &c. | 18 |
| Dropsy..... | 18 | Teething ..... | 10 |
| Sudden deaths .. | 25 | Dis. Stomach, &c. | 3 |
| | | Dis. of Liver, &c. | 13 |
| Hydrocephalus .. | 38 | | |
| Apoplexy..... | 25 | Childbirth ..... | 9 |
| Paralysis..... | 15 | Dis. of Uterus, &c. | 2 |

REMARKS.—The total number of deaths was 15 below the winter, but no less than 97 above the annual average, being the greatest amount of mortality which has occurred for many weeks. This great increase appears to have been chiefly caused by diseases of the lungs and organs of respiration. The deaths from Zymotic diseases, with the exception of hooping-cough, which is again very prevalent and fatal, were below the averages. In the South districts, the mortality was much above the averages. In all the others, it was below.

## METEOROLOGICAL SUMMARY.

Mean Height of Barometer .....29·35
„ „ Thermometer[a].....42·9
Self-registering do.[b] ..... max. 67·7 min. 24·
„ in the Thames water. — 46·8 — 44·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·21: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was one degree below that of the mean temperature of the month (43·9°). The extreme hebdomadal range in the self-registering thermometer was 45·7°.

## NOTICES TO CORRESPONDENTS.

The papers of Mr. Crompton and Mr. Copeman have been unavoidably postponed until our next number.

Dr. Davies (Hertford).—We are much obliged for the communication which has been forwarded to us. We think some good would be done by publishing it in its present shape, but it shall not be inserted until we hear further from our correspondent.

Mr. Copeman.—An answer will be sent or a notice given next week.

Mr. Pearl (Windsor).—Inquiry shall be made on the subject.

Mr. J. W. Wilton.—The Memorial arrived too late for insertion in this week's number.

*Received.*—Dr. Oldham.—Mr. Tomes.—Dr. Davies.—Mr. Phillips.—Mr. W. S. Cox.—Mr. A. B. Barnes.

ERRATUM.—In the concluding portion of Dr. Dick's paper, at page 592 of our last number, the word "infinitessimal" has been by inadvertence left uncorrected. It should be "infinitesimal."

## Lectures.

### CLINICAL LECTURE ON DISEASES OF THE UTERUS;

*Delivered at Guy's Hospital,*

By Henry Oldham, M.D.

Physician-Accoucheur, and Lecturer on Midwifery, at Guy's Hospital.

There are two cases in Petersham House, under my care, which I have selected for the subjects of a clinical lecture this morning. The first is a malignant disease of the cervix, of a fungoid kind, and the other is a case of chronic ulceration and hypertrophy of the cervix. You see at once, that however much these diseases may differ in their character and terminations, they have this thing in common—that they attack the same part of the womb. The body of the womb is untouched; it is the cervix only which is affected. And whether you regard the womb in its anatomical structure, or in the fuctions it performs; or, again, in the diseases to which it is liable; it is important for you to recognize a well-marked distinction between these two parts of the same organ. Now it is more than probable that examples of several of the diseases of the mouth and neck of the womb will come before us in the course of the session, and I think that a few observations on the structure of the part, so far as they bear upon and elucidate its pathology, will be useful in aiding you to comprehend the entire collection of the diseases of the cervix, and not be inappropriate to the two cases which will immediately engage our attention. And first, I would observe that the cervix is defective in animal sensibility. The spinal nerves are sparingly supplied to it. If, in a healthy state, you press the finger or nail upon it, it is not felt. If you scarify it, you produce no pain. The uterus, in its unimpregnated state, is not a sensitive organ, and I believe this quality, if I may so speak of a negation, belongs more to the vaginal portion of the womb than to its body. Now one of the effects of this is, that the diseases of the cervix, especially at their commencement, are frequently painless. Pain, you know, is a safeguard to the body, warning it of danger, and creating a desire for relief; and its absence in this part of the womb leads to a result which we have constantly to deplore; viz. that the first stages of structural diseases, when they are the most manageable, are allowed to pass by without medical aid being sought for. The sufferings, indeed, which accompany these affections, are frequently of a secondary kind. The lower part of the womb gets large and overweighted, and it sinks in the pelvis; and hence comes the lumbar and sacral pain, the dragging at the groins, &c. which denote the first degree of descent of the womb, and form part of the history of so many of the diseases of this organ.

Again, the structural differences which exist between the cervix and the body of the womb, establish a kind of independence the one of the other. The neck of the womb has the lower organisation of the two. This seems to be a disputed point; for you find the converse of it stated in some books. The texture of the cervix is harder, more compact, and more resistant than the body; and this characteristic is seen, not only in the human subject, but in many other mammals. It is less vascular, too, than the body of the womb. I have frequently injected the unimpregnated womb, and have found this to be the case. You may also, if on the watch for it, see the womb naturally injected, in post-mortem examinations, and you will readily recognise this difference. One of the effects of this low organisation is that the reparative actions are feeble and slow. Indurations of this part, or deposits of any kind, are removed with difficulty. The power of the absorbents is languid, and we cannot readily quicken it. The cervix is often called the glandular part of the womb, as though it was endowed peculiarly with this structure; but this is a mistake. There are numerous large crypts in it, many of them quite visible to the naked eye, and they secrete a clear tenacious mucus. The openings of these crypts are very apt to be closed, and the mucus then collects in the sac, which becomes raised on the surface, forming round smooth projections, which Naboth mistook for ova; and hence they have been called ova Nabothi. You ought to become familiar with these crypts and the mucus they secrete. They are seen well developed during pregnancy, when their viscid mucus plugs up the mouth and neck of the womb. You see in this preparation of the gravid womb, the plug I am speaking of, which has become loosened and detached from the cervix, and its floating processes shew the depths of the crypts which they had once accurately filled. Now these crypts are often diseased, and when they are so, their characteristic mucus is usually seen in more or less quantity. So that whenever you hear patients speak of the discharge of thick clear matter, like the white of egg, coming away in lumps, you may conclude at once that it is not yielded by the vagina, or the cavity of the womb, or the tubes, but by the cervix. I have often shewn those of you who attend the out-patients these masses of clear mucus. But these simple cæcal tubes which pervade the cervix, are, both in number and complexity, inferior to the system of glands

which belong to the cavity of the womb. The change which these last undergo in the formation of the decidua, I have already, in lecture, described to you. Now I believe that the morbid changes which take place in these glands are yet to be discovered, and I am sure, from what I have observed, that they will be found to be frequent and distinct. Here is a particular form of polypus, which I have elsewhere shewn to originate in these glands. But it is particularly the action of the ovaries which calls forth their growth, and I hope, in a subsequent lecture, to shew you that the membrane which, in one variety of dysmenenorrhœa, is cast off from the uterus, is in fact formed by these glands.

But the independence which subsists between the cervix and the body of the womb, is seen in the difference of their functions. The uterus, as an organ, performs two functions. It incubates the ovum, and gives out the menstrual flux. In carrying out the first function, the cavity of the womb becomes lined by the decidua; and if you look at these specimens of this membrane, you see that it stops quite short at the cervix. There is here a line, a trenchant well-defined limit, marking off the products of the one from the other. During menstruation, too, it is only the cavity of the womb which supplies the blood, which flows directly from veins which open on its surface. The cervix, I believe, does not yield a drop of it.

This independence is also apparent in the diseases of the two. The affections of one part rarely run into the other. You see a familiar illustration of this in that scourge of the womb, cancer. One of the results of the low organisation of the cervix is, that, like the pyloric extremity of the stomach, it is frequently the seat of malignant disease. Indeed its analogy to this part of the stomach is so obvious, that I have, in lecture, sometimes styled the cervix the pylorus of the womb. Well, look at these preparations of cancer. See how the cervix is destroyed, and then watch its progress. It does not pass upwards into the body of the womb, but its fatal course is directed either in front or backward, laying open the bladder or the rectum. I have seen a specimen of strumous ulceration of the lining membrane of the womb stop most accurately at the cervix. But it is hardly necessary to illustrate these points more fully. I will now read you the particulars of the first case:—

CASE I.—*A fungoid growth from the os uteri. — Removal by ligature — nitric acid.*

Elizabeth Favell, æt. 37, a rather stout, dark-haired woman, of florid aspect, was admitted into Petersham House, under Dr. Oldham, October 11th, 1845. She has been married nineteen years, and has had three children, the last being born prematurely at the sixth month, in consequence of fright. This took place fifteen years ago; since which time she has been sterile. She began to menstruate at 15 years of age. A year after this there was amenorrhœa for seven months, but since then the catamenia have returned regularly, and, both in quantity, character, and being unattended with pain, have been quite natural. Three years ago, being flurried, she had one period more profuse than usual, which was succeeded by leucorrhœa, which soon ceased.

Ten months since she first experienced a severe back-ache, with copious leucorrhœa. This was followed by a discharge like dirty water, which became very offensive, and was so acrimonious as to fret and burn the external organs. Occasional bleedings soon followed, at first occurring every week or so, but for the last six weeks every day or two. There have been severe lancinating pains about the sacrum and in the vicinity of the womb, and particularly inside the thighs, Sexual coitus has not taken place for ten months, but before that time it had been attended with pain, and occasionally a little blood followed, spotting her linen.

*Symptoms on admission.*—There is very little disorder of her general health. She looks well, and there is no appearance of anæmia. Appetite and digestion good. Tongue clean and moist. Pulse good. She complains now of a sense of numbness—an obtuse pain in the left hip—which has succeeded and replaced the intense darting pains from which she has before suffered. She has a constant discharge of a brownish dirty water, which has a fœtid pungent smell. The discharge is sometimes mixed with blood, especially on any sudden movement of the abdominal muscles; as by sneezing, coughing, or even stooping. When the bowels are costive, and she has to strain to relieve them, the coloured discharge pours from her, and sometimes clots escape into the vessel when she is passing water.

On examination, the upper part of the vagina is filled by a growth from the os uteri, which is insensible, but bleeds on being touched. It is evidently a mass of fungoid disease involving both lips of the womb; but there is a small portion of tissue apparently smooth and unaffected, at the highest part of the cervix anteriorly.

The growth is deeply fissured, as though springing from separate parts, which have coalesced at their base.

October 24th.—For the last fortnight she has been kept at rest in bed; her bowels have been regulated, and the Lot. Sodæ Chlorin. has been used with a sponge. This

morning the greater part of the growth was encircled by a ligature, the bowels having previously been relieved by castor oil. In the afternoon bleeding came on, but soon ceased. Urine passed on a warm sponge in bed, without the aid of the catheter. There is little or no pain.

25th.—Ligature tightened. No pain or bleeding. She is comfortable.

26th.—Ligature came away with some shreds of fungoid matter. No bleeding.

Nov. 1st.—The remaining portion of the growth was tied this morning, although its tissue was so infirm that much of it broke down in fixing the ligature.

2d.—Ligature came away.

3d.—On examination, the cervix could readily be pressed into the cylinder of a glass speculum; its surface was covered with vascular granulations, which looked healthy. Discharge scanty, but fœtid, looking like dirty serum. Her condition is much improved. She feels stronger, and better in every respect. Pelvic pains greatly relieved. Appetite good.

Strong nitric acid to be applied by speculum every third day.

14th. — The size of the cervix much diminished. To the touch it feels fissured with a spongy surface. Discharge scanty. She begins to complain of shooting pains in the sacrum, and of a numbing sensation in the left hip; no bleeding.

17th.—She is now menstruating.

The particulars of this case illustrate very well this form of malignant disease.

And first, the character and situation of the growth. It is a species of soft cancer, to which the term fungoid may well be applied. The amount of solid tissue in it is very scanty; it is in fact made up of a semi-transparent cell-membrane, which is quite full of large capillary vessels. If these vessels are emptied by either dividing them, or after death, a growth which before had been of large volume is reduced to a mere cellular web. In this case, the ligature enclosed a good-sized mass, but when it came away it held only a few loose shreds of tissue; you see too that it springs from the entire circle of the os uteri, having thus a broad and extended base. This is by far the most common situation of fungoid cancer of the womb, although it is not the invariable one. Here, for instance, is a similar growth from the cavity of the womb. When it springs from this part, it first distends the cavity, then opens and dilates the os and cervix, and then it swells out in the vagina: sometimes this process is gradual and slow, but I have seen it occur quite suddenly. If you examine a specimen of fungoid growth of the uterus after death, it looks strikingly like the floating villi of the chorion of a young ovum; just as though the reflex decidua had been peeled off, and the ovum fixed to the womb.

Now when fungoid cancer grows from the os uteri it is enclosed within the vagina, and if the walls of the canal are lax, as they usually are in women who have borne children, they do not impede or cramp the growth, but allow it to spread out and distend the passage. Malignant tumors generally are much restrained in their development by firm and resisting structures, and if a vagina is rigid it will shape and contract these fungoid growths. In this case the vagina was relaxed, and the tumor filled the upper part of it, which readily yielded to its increase. When examined it was found insensible to the touch, moveable, with an irregular granulated surface, and its tissue was so infirm as to generally occasion bleeding.

There is a disease growing from the os uteri which Dr. Clarke called cauliflower excresence. It is described by authors as a very rare disease; but if you read Dr. Clarke's description of it, and compare it with the present case, you will not detect any essential difference, either in the physical characters of the growth, or the symptoms which attend it: and yet this form of cancer is far from rare. There is another case among the out-patients, and within the last six months I must have seen at least half a dozen such cases. The truth is, I believe cauliflower excrescence to be only another name for a variety of fungoid cancer.

*Symptoms.*—But now let us review the symptoms in this case. There is nothing in her previous history to excite attention; she has been a healthy woman. Look again to her uterine health: an amenorrhœa of seven months followed the establishment of menstruation, and a slight attack of menorrhagia with leucorrhœa, and a prolonged sterility. This is an amount of interruption which is common to many healthy women: indeed, you cannot anticipate the appearance of cancer in any of its varieties from any casual or even habitual menstrual derangement. It has been thought that there is a relation between dysmenorrhœa and cancer, that the one is a precursor and disposing cause to the other. But the term dysmenorrhœa is applied to several different and sometimes opposite conditions of the uterus, which agree only in the fact that they produce pain during the flow of the catamenia; so that unless the term is clearly defined, any statistical inference of the kind is quite valueless. I do not think that dysmenorrhœa, or any other functional disorder of the womb, prevails in women disposed to cancer, in a greater ratio than they do in any other disease of this organ, or indeed amongst women generally. The first symptoms which were perceived by the patient were a copious leucorrhœa, and severe backache;

and about the same time sexual coitus became painful, and some spotting of blood followed it. Then the leucorrhœa was replaced by a discharge of dirty water, which was fœtid, and irregular hæmorrhages have more or less prevailed. Now you see that leucorrhœa of a kind to attract her attentions was an early symptom: this is well worth your notice. A white, or it may be a yellowish discharge, more or less profuse, is one of the most common and early signs of structural disease of the cervix. Patients bear with it without complaining, hoping and expecting that it is only "weakness," and will soon go away. A young woman, one of my out-patients, came complaining of leucorrhœa and nothing else, for which she had, under advice, been using astringent injections, but without benefit; and on examination I found a perfect frill of vascular vegetations around the mouth of the womb. Depend upon it, that a leucorrhœa suddenly setting in, in a woman in fair health, or a leucorrhœa which does not yield to ordinary remedies, is generally only a symptom of some structural disease; it may be in the cervix, or the vagina, or the vulva, but it ought to be sought for by examination, and treated accordingly. In this case, had this woman been examined when the leucorrhœa was her prominent symptom, in all probability this fungoid growth would have been found just sprouting forth, before the deeper structures of the cervix had been implicated, when far more and perhaps even permanent benefit might have been given to her. I need not comment at any length on the character of the discharge. It was thin and watery, sometimes tinged with blood; very acrimonious, so as to fret the parts which it touched, and having a pungent odour, which I cannot liken to anything, but which hangs about the patient, and diffuses itself through the ward, and at once tells the nature of the complaint. The pains which she has suffered, radiating from the pelvis, have been very severe. If you ask her about them, she tells you of racking pains about the hips, as though the bone was being burnt; then again of intense pains inside the thighs, as though the flesh were being screwed from her; again, of frequent paroxysms of pain, so severe that no labour-pains could be worse; and so on. Patients suffering from this complaint adopt much the same form of energetic expression to describe their sufferings. You will notice the bleeding in this case. Mark how easily it is produced. If she coughs, or sneezes, or strains at all, on comes the bleeding; even the efforts to pass water occasionally cause it; if the growth is touched it bleeds; in this respect it differs from the bleedings which accompany polypi, which from increasing the menstrual flux, recur in gushes more or less copious. It is a difference which is to be explained by the difference in their morbid anatomy. In fungoid cancer the blood comes from capillaries whose walls are so weak that they give way under the congestion produced by straining, &c. In polypi, as I have elsewhere shewn, the blood comes from veins which open upon their pedicle or surface. With this history of loss of blood, and a constant watery discharge, it is strange that this patient should not be more anæmiated. If you go into the ward, you would not, from her appearance, suspect the disease she is suffering from. I have seen the same slowness to become anæmic in other cases, and I think it forms a contrast between these very vascular malignant growths, and the the scirrhous form of cancer. A young woman among the out-patients has carcimona of the cervix just beginning to ulcerate, but already she shews the cachectic look of cancer.

*Treatment.* — When first this patient came in, I kept her strictly at rest, and took care that the bowels should be kept loose by saline laxatives. These means were designed to prevent congestion of the pelvic organs, which is brought on by the erect posture, and more particularly by any straining. I prescribed, too, an opiate at night to allay the local pain and procure sleep, but she complained of the headache which it caused her. I tried successively Dover's powder, morphia, hyoscyamus, and camphor, but she intreated me not to give her any more such medicines, from the distressing head symptoms which they always occasioned. A belladonna plaister to the loins gave her some comfort. These are some amongst the many palliative remedies which we have to adapt to each case, as it comes before us. The best they can do is to give ease to the patient; but the malignant tumor goes on growing, and the discharges increase, and the patient at length dies worn out with them. Now it was with the hope of prolonging this woman's life that I determined to remove this growth. I could not hope to cure her permanently; the disease was too far gone for that. If you can get these cases early enough, you may, I believe, quite cure them. In these two bottles are some portions of fungoid disease, which I cut off with scissors from the os uteri of two women, the one two years ago, and the other rather more than a year since. The surface from whence they sprung was freely cauterised with nitric acid, and I have every reason to believe that they are quite well. In the first case the growth began to sprout again. I broke it up with the edge of a scarifying knife, and when the bleeding stopped I applied nitric acid to it; a deeper slough separated; the wound cicatrised, and she has since been well. The

actual cautery, or the more powerful caustics, as chloride of zinc, or potassa fusa, might be useful in these cases, but I have been very well satisfied with nitric acid, and have hitherto kept to it. You must keep an eye upon patients thus affected, because of this tendency in the disease to return. The growth in this case, in the ward, was removed by ligature. At first, using Gooch's instrument, I enclosed the greater portion of it, because I found it more easy to do so, and the remainder was readily removed. There is no pain produced by the ligature; the bleeding is trifling, and from its infirm structure the growth is soon cut through. Nitric acid was then applied; the cervix diminished, and a granulating surface was formed. The effect of this operation has been to stop the bleedings, greatly to lessen the watery discharge, and to relieve the local pain. She is now menstruating.

CASE II.—*Abortion; hypertrophy, and ulceration of the neck of the womb; scarification; nitrate of silver; iodine.*

Mary Lindscott, æt. 31, was admitted into Guy's Hospital, Oct. 18th, 1845, under Dr. Oldham, who had previously seen her for some time: she has been married eight years: one child was born nine months after marriage, which lived fifteen months, and since that she has had four miscarriages about the third month; the last took place in Feb. 1845, and from this she has never recovered.

She has suffered from dragging pains in the loins; sharp darting pains above the groins, with a dull numbing heaviness about the thigh and hip of the left side; she also speaks of throbbing sensations near the coccyx. These pains are relieved when she lies down; catamenia regular and in proper quantity; she has habitually a yellowish discharge, and sometimes some lumps of a clear thick mucus pass with it; sexual intercourse causes much pain, and is followed by a small quantity of coloured discharge. On examination by touch, the cervix is felt within two inches and a half of the vulva, directed backwards and pressing on the rectum; the cervix is very large, and a large patch of it around the os uteri is soft, moist, and mossy to the touch; the lips of the os are everted.

*By speculum.*—The volume of the cervix is almost too large to be pressed into a full-sized speculum; it presents a red granulating surface, bleeding when touched, and a plug of clear tenacious mucus fills the os uteri.

Ordered to keep in bed. Sodæ Sesquic. gr. x.; Tinct. Lupul. ʒss. ex Infus. Cascarill. bis die. Pulv. Rhæi Salin. ʒss. p. r. n. Nitrate of silver to be applied to the cervix every third day.

Nov. 10th.—Ulcerated surface diminishing; pelvic pains less; general health improving.

Pergat.

Nov. 18th.—The ulceration is almost healed; the cervix is still large and heavy, and is felt low down in the vagina.

We have here an example of a very common disease. It is rarely that there are not six or eight cases amongst the out-patients under treament for it. The volume of the cervix is much increased, and there is a healthy-looking ulcer upon it. It occurs you see in a married woman, who has had one child and three miscarriages; and it is from her last abortion, in February 1845, that she dates her present illness. We shall be quite safe, I think, in ascribing this disease of the cervix to the abortion, of which it is a frequent sequel. When the womb has cast off an immature ovum it needs some time to recover itself, and rest on or in bed is a most important precaution. But this is just what the poor women in this metropolis do not and perhaps cannot heed. They resume their duties almost immediately, and this keeps up congestion of the uterus. The cervix swells, and being heavy it sinks somewhat, and rests on the posterior wall of the vagina; there it is subject to friction, and ulceration soon appears on its surface. You have then an enlarged or hypertrophied cervix passing into ulceration.

*Symptoms.*—I had both seen and treated this patient for many weeks before she entered the hospital; she had all the symptoms of partial descent of the womb; pains in the loins, and darting pains near the groins; and pain deeper in the pelvis, of a throbbing kind, near the coccyx, which were much relieved by lying down. Then there was an habitual puriform leucorrhœa, with occasional lumps of a more transparent gluey discharge. Sexual intercourse was painful, and a coloured discharge sometimes followed it. When you have an assemblage of symptoms such as these, it is imperative on you to examine by the vagina. In this case we found at once the cause of all this suffering; the large massive and overweighted cervix had sunk to within 2½ inches of the vulva. It pressed on the rectum, and when she was standing, some of the larger arteries in the pelvis were compressed, which caused the throbbing near the coccyx, which I have known to be mistaken for the formation of an abscess. The soft spongy surface, which was felt by the finger, proved, when viewed by the speculum, to be a slightly raised granulating sore, which bled on being touched; and a plug of the mucus of the cervix lay forth through the os uteri.

*Treatment.*—Much had been done for

this patient before she came into the hospital. On several occasions I had scarified the cervix; she had been using an injection of the diacetate of lead in the dec. pav.; and her general health, particularly the state of the bowels, had been carefully attended to, and were much improved. But besides these, she had been ordered to keep at rest, and to avoid sexual intercourse. Now I am quite sure that this case would have been well some time since had these injunctions been attended to; but she could not keep much at rest, and the husband would not submit to the necessary restraint: the consequence was that the ulceration would not heal, and I took her into the hospital to prevent these hindrances to her cure. You must, then, in a case of this kind, secure these two points; that the woman lie down as much as possible, and that sexual connexion be for a time abandoned. Taking blood directly from the cervix, by dividing the granulations with the scarifying knife, is of great use in these cases. My plan is to desire the patient to lie on her back, or, what is equally convenient, to sit down on the edge of a chair; and having wrapped her clothes around the legs, to pass a speculum to the cervix, so as to get it nicely into the cylinder; I then divide the granulations, not cutting deeply, but gently drawing the blade over them: they always bleed freely. You may then receive the blood into a saucer as it runs out from the speculum, and in this way, in two minutes, you may get six or ten drachms of blood, without any mess, and with very little pain to your patient. This topical bleeding, which often requires to be repeated, lessens the volume of the cervix, and gives great relief. It is the case of all others—I would almost say the only case—where scarifying is better than leeching. Since the patient has been in the hospital the nitrate of silver has been applied to the surface of the ulcer every third day, and it is now healing. But, when this ulceration is healed, is the patient cured? This question involves an important practical point, which Dr. Bennet has very lately insisted on. The truth is, if the cervix remain large and hypertrophied, it will probably again ulcerate, or, what is worse, become the nidus for the development of malignant disease. We ought to get rid of this chronic thickening, then. For this purpose Dr. Bennet has recommended the use of powerful caustics, such as Vienna paste, or even the actual cautery; these destroy the portion of the cervix to which they are applied: and it is said that the cervix lessens, when the slough has separated, and the part has cicatrised. I have no experience of this mode of treatment, but in this case, as in some others which I have treated, I shall hope to reduce the large cervix, by the local use of iodine. Here are a large number of lozenge-shaped bodies, which are designed as vaginal suppositories; they contain two grains of iodine and three of iodide of potassium formed into this mass by tragacanth gum: one of them is to be passed within the vagina at night. The heat and moisture of the part dissolves the gum, and the cervix is exposed fairly to the action of the iodine. Mercury may be employed in the same way; and they are useful here, as in other parts of the body, in quickening the languid action of the absorbents. I have hitherto been unwilling to resort to the more severe means recommended by Dr. Bennet; because if they fulfil the immediate purpose ever so well, they do it at this expense—that they implant a new and very unyielding cicatrix-tissue in the cervix. This does no harm as long as a person does not become pregnant. But just remember that the sterility which almost always attends these swellings and ulcerations of the cervix, and which is just as much a symptom of uterine disorder as amenorrhœa is, is frequently at an end when the cervix is cured. And then you may have to deal with this rigid state of the mouth of the womb, which may dangerously prolong the first stage of labour. We still need some information on the effect of these artificial sloughs, in women who have been pregnant afterwards; and until you are sure that the danger I have pointed out is imaginary, I would counsel you to adopt the expedients I have suggested to you.

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### WOUND OF THE PENIS FROM THE BITE OF A HORSE.

The man to whom this accident happened is now a patient under M. Lenoir, at the Necker hospital. Although protected by the blouse and trousers, the animal had seized the penis with such force between its teeth, as to inflict a circular wound like that which would have resulted from the use of a cutting instrument. The skin was indeed entirely detached from the root of the organ. M. Lenoir at first thought that he might heal the wound by adhesion, but gangrene took place, and the corpora cavernosa were laid bare. A gangrenous spot had also appeared in the scrotum, which had probably become much stretched by the violence. Extravasation of urine had been avoided by the introduction of a catheter.—*Gaz. des Hopitaux*, Mars 1846.

## Original Communications.

### ON PARACENTESIS THORACIS.

*With Cases,*

By H. M. Hughes, M.D.
Assistant Physician to Guy's Hospital.

[Continued from page 546.]

II.—*Cases in which the operation was proposed and performed, with the view of affording present relief, without any prospect of ultimate benefit.*

The operation of paracentesis is so simple that I am convinced it might be performed with advantage much more frequently than it is, in cases which will certainly prove ultimately fatal, but in which the patient suffers from the mechanical effect of a large quantity of fluid. When great distress arises from this cause, I have seen great relief afforded by the withdrawal of some of the fluid.

The forms of disease in which the operation is most likely to be called for, under these circumstances, are empyema accompanied with phthisis; some few cases of simple pneumothorax; other cases of pneumothorax with gradually progressive effusion, in which the weight of the fluid considerably adds to the distress of the patient; cases of symptomatic hydrothorax, arising from disease of the heart or lungs; and cases of sero-sanguineous effusion connected with malignant disease of the pleura. In such forms of the disease the operation is not and cannot be expected to save life. It is, then, as absurd as it is ungenerous to say that the operation is not *successful* because it does not remove an incurable disease, of which that disease for which the operation is performed is merely a symptom. On this subject it has been said, in the paper in the Guy's Reports, so often referred to, "Neither can it be truly said that in such cases the operation is not successful, though the patient may ultimately, and even speedily die. It is not adopted as a means of cure. The patient, in the case supposed, has other disease, to which he will certainly, and perhaps quickly, fall a sacrifice: his present suffering is greatly increased by large effusion into the pleura; his chest is tapped; no bad consequences follow the operation; he is, on the contrary, greatly relieved, and passes the latter days or weeks of his life in a state of comparative ease. He dies from other causes. The operation does not, indeed, save his life; it is not performed with that intent: it effects that for which it is employed; it affords relief; it lightens the burden of life; it perhaps prolongs life; it is certainly advantageous; surely, therefore, it is *successful*."

Case VII.—*Pneumonia on one side cured.—Sanguineo-serous effusion into the pleura from malignant disease on the other side.—Paracentesis.—Relief.—Death.—Inspection.*

J. P., aged 44, admitted January 8th, 1845, under the care of the surgeon, for malignant disease of the os calcis, from which a tumor had been removed two years before. I was requested to see him February 24th, in consequence of pain in the chest, accompanied with cough and febrile excitement. He then had a large malignant ulcer on the right ankle, and an enlarged malignant gland on the inner side of the right knee. He lay on his back, inclined to the right side, with the shoulders raised; the countenance was pallid and rather anxious, with an occasional flush on the cheeks; the respiration was hurried, but not laborious; the skin hot and dry, but not pungent; the tongue loaded with a dirty white fur, but quite moist; the cough was rather frequent; the expectoration frothy, mucous, viscid, of a brownish-red colour, and not very copious; the pulse was frequent, small, and sharp; and he complained of pain in the right side.

Anteriorly the chest was resonant, except in the lower part of the right mammary region. The right lateral region, as he lay upon his back, was dull over half its extent, and up to a tolerably defined line. Mucous rattles were the only indications of disease derived from auscultation anteriorly. The heart's sounds and impulse were feeble, but its rhythm was natural. Posteriorly the right side, as high as the angle of the scapula, was dull upon percussion; it appeared also to be more full and rounded, was less raised during inspiration, and was found to measure nearly an inch more than the left. The lower portion of the subscapular region of the left side

was also dull upon percussion. In the latter were heard muco-crepitating rattles and bronchophony; in the former were distinguished tubular breathing, and the modification of œgophony resembling Punch's voice.

Ordered, Emplastr. Cantharid. lateri dextro applicand. Curetur ulcus Ung. Hydrageri. Pil. Antimon. Opiat. c. Hydrarg. Chlorid. gr. j. quaque nocte sumend. — Vin. Antimonii Potassio Tart. ℥xxx. Mist Conii, ℥j. 6ta quaque hora sumend.

In a few days the cough decreased, and almost ceased; the sputa were colourless and less viscid, and the dulness, bronchophony, and mucous crepitation of the base of the left side posteriorly had gradually diminished. In the course of a week they had entirely disappeared. The dyspnœa, on the contrary, had increased, and the dulness and other signs of effusion on the right side had advanced. This it was thought probable might be connected with malignant disease of the lung, and as, whether it was so connected or not, the propriety of mercury largely administered was in such a case very questionable, Mr. Cock, at my request, introduced the exploring needle, and afterwards the small trochar, between the eighth and ninth ribs. Twelve ounces of reddish turbid fluid were withdrawn, of specific gravity 1022, which, in the course of twenty-four hours, deposited a firm red coagulum, amounting to about one-twelfth of the whole quantity. The patient expressed himself greatly relieved by the operation. A bandage was afterwards applied. The antiphlogistic remedies were now suspended altogether, and he was ordered Dover's powder at bedtime, and liq. potass, with a small dose of opium in decoct. cinchon. twice or thrice in the day. On the third day the bandage was removed, and the dulness on percussion was found to be diminished considerably. His medicines were subsequently varied as his more urgent symptoms appeared to indicate. He got, however, evidently lower in power, and lay more and more upon his right side. The face was often flushed, and the skin covered with perspiration; yet a loud pleuritic rubbing was distinctly heard and felt below the ninth rib, and the dulness on percussion did not perceptibly increase. A blister was now ordered to be applied to the sternum; he was allowed some wine, and was ordered to take a few grains of iodide of potassium in the ammonia julep of the hospital three times a-day. His distress of breathing, however, increased, and his anxiety was so great that, though with little prospect of benefit, it was thought desirable to attempt to relieve him by drawing off a small quantity of fluid. The trochar was consequently again introduced; but as the fluid escaped only during expiration, and there was a tendency in the air to pass into the chest through the canula during each inspiration, it was withdrawn after a small quantity had been gradually removed. He was neither better nor worse for this operation, but in the following night he was suddenly seized with increased dyspnœa and collapse, for which stimulants were ineffectually administered, as he died at 5 P.M. of the following day.

*Inspection forty hours after death.*—No evidence of disease existed in the brain. Upon removing the sternum, the left lung was found almost perfectly collapsed, and the pleura filled with air. Both lung and pleura were quite free from disease. The lung was capable of perfect distension by inflation, and no traces of the former pneumonia could be discovered. The larynx, the bronchial glands, the heart, and the pericardium, were free from obvious disease. The right pleura, anteriorly and laterally, was adherent to about two-thirds of its whole extent. Between the adherent surfaces of this membrane were several pea-sized malignant tubercles, and on the part rather to the outer side of the nipple was a cerebriform fungoid mass as large as the palm of the hand, and about a third of an inch thick, which appeared strictly confined to the serous membrane. The posterior unattached surfaces of the pleura were coated with a thick rugous layer of brownish fibrin, and enclosed about a pint and a half of turbid sanguineous serum. The lung itself was not affected with malignant disease, with the doubtful exception of a simgle mass, about the size of a hazel-nut, white, opaque, and soft; and independently of congestion, compression, and a few hard masses, the result of old lobular pneumonia, appeared healthy. No tubercles were discovered, nor were the axillary or

bronchial glands enlarged. The heads of some of the ribs were softened from malignant disease. The organs of the abdomen were not unhealthy.

As in this case it was assumed that malignant disease existed in the chest, the operation of paracentesis was performed with the simple view of relieving some of the patient's most distressing symptoms. We were abundantly satisfied with its effect on the first occasion. The relief afforded was very decided, and was gratefully acknowledged by the patient himslf. On the latter occasion, as scarcely any fluid was withdrawn, it was not followed by any relief. It is remarkable, that on the succeeding night he was seized with a sudden increase of his already severe distress of breathing, with great depression and collapse, from which he never rallied. In connection therewith it is also remarkable, that the left lung was found completely collapsed after death. Had this been upon the side upon which the operation had been performed, it might naturally, and probably would have been assumed that the lung had been wounded, and that air had consequently escaped into the pleura, or that it had gained admission through the canula. Whatever might have been its source, it is clear that it had nothing whatever to do with the operation upon the right side.

I have previously expressed an opinion (see paper on Pneumothorax, Medical Gazette, Jan. 1844) that the presence of elastic fluid in serous cavities, without any communication with the external air, and independently of decomposition, is, to say the least, exeeedingly rare. Considerable doubt may fairly be entertained in reference to this question in regard to the case before us. The circumstances in favour of the secretion of air are briefly as follows:—A man, already considerably distressed from disease of the right side of the chest, was seized suddenly in the night with a great increase of dyspnœa and alarming collapse, from which he never rallied, and from which he expired in less than twenty-four hours. After death, the lung of the left side is found completely collapsed, and the pleura filled with air. The facts opposed to such a view of the case are, that the existence of pneumothorax was not detected, though the chest was examined, during the life of the patient; that air did not escape from the pleura upon an opening being made into the serous sac; that the lung was capable of complete distension by inflation, and that both the lung and the pleura were perfectly healthy. Mr. T. W. King, the morbid anatomist, expressed a very decided opinion that the collapse of the lung occurred after death, that it followed the opening the chest, and that it was greater than usual, simply in consequence of the lung being quite healthy and perfectly free from adhesions. Though no positive proof can be adduced upon either side of the question, I must acknowledge that I consider the opinion of Mr. King to be at least doubtful, although it tends to confirm the views previously expressed and still entertained by myself.

Case VIII.—*Phthisis; Pleuritic effusion; Paracentesis; Pneumothorax; Death; Inspection.*

W. C., æt. 25, admitted under the name of Dr. Barlow, but placed under my care March 6th, 1844. He was of a light complexion with a fair skin, but rather dark hair; had been employed as a clerk, though he had for some years been partially paralysed in the right upper extremity, which was small, feeble, and flabby. He had not suffered materially in his health, till eight months before, when he came under my care as an outpatient for subacute pleuro-peripneumony of the left side, for which he was treated by cupping and blistering, combined with mercurials and antimony. After a month he discontinued his attendance, and felt so much better as to be able to resume his ordinary occupation. From that time, however, he had never felt quite well, had never entirely lost his cough, and had been occasionally troubled with pain in the side. Upon his admission his aspect was phthisical; his cough frequently accompanied with mucous expectoration; his appetite was bad; his sleep disturbed, and his pulse small and frequent. He complained of pain in the left hypochondriac region; was unable to lie upon his right side, and generally lay upon his back. The sides were about equal in size, but the left was scarcely at all raised during respiration; the intercostal spaces were not widened, or

flattened. The left side was also quite dull upon percussion, anteriorly as high as the infra-clavicular region, in which the resonance was nearly natural, and as high as the scapula posteriorly. In the dull portions of the side the respiration was distant and indistinct, and the vocal resonance was greatly diminished, as appreciated both by the ear and by the hand. The heart was most distinctly heard over the centre of the sternum, and could be heard only very imperfectly, and not at all felt in the ordinary site of the impulse below the left nipple. In the left infra-clavicular and acromial regions, and, though in a less degree, in those of the right side also, a loose mucous rattle approaching to gurgling, with a little increased resonance of the voice, was observable. Ordered—

Hirudines, viij. et postea Cataplasm Lini parti dolent. applicand. Pil. Hydrarg. gr. iv.; Opii, gr. ¼. ft. Pil. nocte maneque sumend. Potassii Iodidi, gr. ij.; Liq. Potass. ℥xv. ex Infus. Gentian. c. ter die sumend.

This pain was relieved by the cuppings, and a blister was afterwards applied; his medicine was varied a little during the next week in consequence of his frequent and distressing cough. The probability of the existence of phthisis appeared, after further examination, to be so great, that I considered him to be unfitted for the continued action of mercury. I therefore requested Mr. Cock to introduce the exploring instrument, upon the withdrawal of which a few drachms of turbid sero-purulent fluid escaped through the canula; but, though a fine probe, which was passed through it, penetrated the chest for a distance of three inches, the liquid did not flow freely; it escaped indeed from the chest only in proportion as the air entered the cavity. It was therefore presumed that the fluid caused no inconvenient pressure, or that the elasticity and expansibility of the surrounding organs were destroyed; the canula was therefore withdrawn. The next day he was asked if he felt any effects from the operation, but said that he experienced not the slightest inconvenience or difference in any respect, and that with the exception of the pricking at the time of the puncture being made, he should not have known that any thing had been done to him.

March 26th.—The bowels were relaxed, and the pain of the side returned. He was therefore ordered—

Mist. Cretæ, c. Syr. Papaver. ʒj. et Vin. Ipecac. ℥xv. 6tis horis. Empl. Cantharid. lateri sinistr. applicand. Ung. Hydrarg. fort. ʒi. quaque nocte infricand.

No remarkable change occurred in his symptoms or his general condition, till Dr. Barlow took the charge of his patients, April 30th; but on May 10th, he was suddenly seized with pain of the left side, accompanied with great prostration, profuse perspiration, anxiety of countenance, and feebleness of the pulse. At this time it is probable that air escaped into the pleura.* He was ordered wine, mustard poultices, and a mixture containing æther, and, when he had in some measure rallied from his state of depression, Opii, gr. ss.; Hydrarg. Chlorid, gr. ½, ter die sumend, with the Æther mixture as before. With the exception of the appearance of metallic ringing of the respiration, and slightly improved power, no material alteration took place in his symptoms up to June 7th, when I obtained the following particulars of his condition. He was tolerably comfortable when he lay quietly on his back, but when he turned upon his left side, and sometimes when he sat up in bed, he expectorated a large quantity of yellow matter, quite different from the mucus and muco-purulent sputa he brought up under other circumstances. The whole left side was now tolerably resonant (not tympanitic), except quite at the lower part when he was sitting up, and at the posterior part when recumbent. The impulse of the heart could not be felt, and its sounds were indistinctly heard below the left nipple, but were clearly audible behind, and to the right of the sternum. The dimensions of the two sides were nearly the same, but the healthy side was 1-3d of an inch the larger, though there now exist a general roundness and filling up of the intercostal spaces of the left side. As high as the mam-

* It was suggested, (as it appeared to me most improbably), that the escape of air was the result of a wound of the lung by the trochar six weeks before. The examination after death showed that the supposition had no foundation.

mary region, metallic tinkling, and metallic resonance of the breathing, were distinctly heard ; but neither the voice nor the cough presented that peculiarity, nor were the phenomena of succussion then perceptible. Subsequently to this the side became again dull from the reaccumulation of the fluid. He gradually sank, and died July 2d.

*Inspection 24 hours after death.*—The head was not opened. Chest: The left pleural sac contained about two quarts of sero-purulent, or almost purulent fluid. Before the lung was removed, a blow-pipe was introduced into the left bronchus, by blowing through which numerous bubbles of air escaped on the surface of the fluid. After the removal of the fluid the lung was found compressed to about 1-6th or 1-8th of its natural size, and adherent towards the apex and the mediastinum. The pleura was covered with a thick layer of soft albuminous matter. Several openings existed in the thickened pulmonary pleura, and some of them had rounded edges. These openings communicated with bronchial tubes, and through them with tubercular cavities, of which there were several in the lung, but of which none opened directly into the pleura. The upper lobe of the right lung was thickly sprinkled with tubercles in all stages; a few had become softened, and formed small cavities. The two lower lobes were comparatively free from disease. The other organs were not examined.

The operation in this case was proposed, not with the prospect of effecting any permanent good, as the patient was supposed at that time to be in an advanced stage of phthisis, but with the simple view of contributing to his relief; even this, however, was not effected by the operation. The most, it may be supposed, that can be said of it, in this case, is that it did no hurt. It really did, however, some good, as by its means, without any injury to the patient, we were informed that the lung was at that time incapable of expansion. The pleuritic effusion did not flow spontaneously from the canula, though an abundance of it was present in the pleural sac. There was therefore no considerable amount of pressure made upon its boundaries. When an inspiration was taken the external air had a tendency to enter the chest by the canula, and not to dilate the lung. It was presumed therefore that the lung was then inexpansible, as well as tubercular; and that independently of the unfitness of the patient for the remedial action of mercury, the absorption of the fluid would be followed by no beneficial effect upon the left lung, which was thus shewn to have been already rendered useless for the purposes of respiration by compression and adhesion.

[To be continued.]

## ON TUMORS OF THE FACE.

By D. W. Crompton, Esq.
Birmingham.

After what has been so excellently written concerning such diseases, by Burns, in his work on the "Surgical Anatomy of the Brain and Neck," by Jourdain in his two volumes, by Liston, Fergusson, and many others, some apology may be necessary for sending the accompanying cases of tumor occupying the face to the Medical Gazette, for publication.

Judging from my own experience, I think the record of cases, especially of successful ones, tends to give a conscientious operator, particularly if he is a junior, confidence in what must be to any one a serious undertaking. I do not, however, in the least mean to advocate the publication of successful cases to the exclusion of those which prove unsuccessful, for I believe that practical surgery has lost as much as it has gained by the want of true returns of the *ultimate* results of numberless cases that have already been published as having been attended by success.

Case I.—*Tumor in the right cheek.*

James Walton, aged four years, was admitted into the Birmingham General Hospital, February 1845. His mother stated, that when he was two years of age, she first perceived a moveable tumor, "like a waxen kernel," near the centre of his cheek. About that time the boy frequently complained of what she thought was toothache, and for which she used fomentations. On examination, I found the boy's health very good, and he had a florid complexion. The tumor was firm, elastic,

and not painful, even on firm pressure, nor did he suffer from the aching sensation which generally is the effect of much handling in fungoid disease. I admitted him for consultation, and for the following reasons I did not think that the tumor was true osteosarcoma of the superior maxilla. The teeth of the upper jaw, and the alveolar process of the right superior maxilla, were all sound, and firmly planted. They were pressed inwards by the long-continued growth of the tumor, nearly to what ought to have been the centre of the palate, the right palatine plate apparently not having been developed; the teeth and palate did not constitute any part of the tumor. The malar bone and zygoma were both pushed outwards. The orbital plate, and about the breadth of the finger below the inferior ridge of the orbit, were sound and undisturbed. The tumor had grown down low enough to cause the teeth and the right half of the lower jaw to be pressed inwards, so as to correspond with the state of the upper jaw; the mouth was drawn down by the length of the tumor, which reached below the level of the lower jaw. The mucous membrane of the mouth was healthy, except where the teeth of the lower jaw had pressed upon it, and there the membrane presented the white appearance that is usual when superficial ulceration takes place from such a cause. The palate felt quite firm and natural, but the tumor could be felt by the fingers placed in the mouth passing backwards to the fauces, still firm and elastic; and when both hands were used, one outside, the other inside the mouth, the tumor appeared to be somewhat moveable. After consultation, the treatment of the case was left to the decision of the mother, who did not object to a trial being made to relieve the child from what seemed likely, from its rapidly increasing growth, soon to destroy him.

The boy being carried into the operating room, was laid on his left side, bound in a roller towel, so as to confine his arms.

I began the incision (the whole skin and integuments of the cheek being healthy and moveable over the tumor) at the zygoma, and continued it down obliquely to about half an inch below the angle of the mouth in its present drawn position, missing the commissure of the lips and orbicularis oris muscle by about half an inch. The incision passed down at once upon the tumor, which, much to my satisfaction, I saw was white and firm in texture; it was bound down by the zygomatic muscles expanded over it, which were divided, and I could then push my fingers with some difficulty round the lower portion of the tumor, so as in some measure to enucleate it. The upper portion was pretty firmly attached to the prominence of the malar bone, under which and the zygoma it passed, and was firmly impacted. By careful dissection upon my finger nail, I detached the tumor in its lower portion from the mucous membrane of the mouth, leaving the latter at this stage of the operation intact. I had calculated that the parotid duct would be carried downwards by the tumor, and I saw nothing of it, nor of the parotid gland, as I had to cut deeper than either.

The tumor, with two partially detached portions, passed within the coronoid process of the lower jaw, and under the zygoma and backwards to the external pterygoid process and sphenoid fossa, from which I detached it, partly by pulling with my fingers, and partly by touches with the knife, to aid which a ligature had been passed through the substance of the tumor, and was held by one of my colleagues, who gave me their best assistance during the whole operation.

The tumor gradually became loosened from its attachments, and at last was only held by cellular membrane, deep within the coronoid process of the jaw, which, with another incision, I divided. Then a gush of blood came forth that produced faintness in my little patient, which had not occurred before: a piece of sponge was instantly pressed upon the bleeding vessel by Mr. Hodgson, and retained there by my dresser for an hour after the boy was placed in bed: the cheek was filled up by other pieces, and a compress retained by a bandage passed over the whole.

The tumor, on section, presented a firm white appearance, which reminded one very much of the fibrous tumors found in and about the uterus. It was about the size of a St. Michael's orange, with two smaller appendages, each as large as a walnut. The boy slept in the evening, and there was no more bleeding. On the third morning I re-

moved the bandage, as there appeared some white œdema of the eyelid; the wound would have entirely healed by the first intention, had it not been for the sponges; as it was, I was obliged to tear open most of the edges in order to get at them. I removed the external ones, but, on removing the small piece in the sphenoid fossa, the bleeding began again, and, as before, the boy became faint. I lost no time in again filling the wound with sponge, covered by linen, spread with simple dressing, which has the advantage of not allowing the new granulations to extend into the substance of the sponge, and thereby rendering its removal after a few days rather difficult. The bandage was again put on, so as to keep up moderate pressure: a common enema was given at night, as he was rather inclined to delirium and restlessness.

On the sixth day, I removed all the sponges, as I saw that some secretion was taking place from the surface of the wound, which made me hope that the vessels had been closed by new membrane. The cavity looked almost fearful. I could see behind the coronoid process of the lower jaw, the external pterygoid process was bare, and there was a large vacant space under the zygoma and malar prominence; the whole was lined by a smooth secreting membrane. I placed the edges of the cheek in accurate apposition, and in three weeks the boy was discharged well.

I have since opened an abscess in the cheek, from which I extracted a small portion of bone, exfoliation having been occasioned by the necessity of laying bare the malar bone and external pterygoid process during the removal of the tumor. A very interesting part of the case is, the effort nature is now making to restore, as the jaw expands by the development of the second set of teeth, the contour of the bones, both in the upper and lower jaw, and from what has already taken place, I have no doubt that when the second teeth are all cut, there will remain no deformity, except the line of incision, which may eventually be nearly covered by whisker.

I omitted to state, that after the tumor was removed, I saw two small white patches in the mucous membrane of the mouth, which, as I was then uncertain as to the character of the tumor, I thought it best to remove, and thereby made an opening into the cavity of the mouth; but no trouble ensued from this excision, which, from the admission of saliva into the wound, I was afraid might have been the case.

Case II.—*Tumor in the left antrum.*

Sarah Smith, æt. 55, the mother of fifteen children, eight of whom are now living, was admitted into the Birmingham General Hospital under my care, December 5th, 1845. She states that she has not enjoyed good health, but has not suffered from any localized disease; for the last thirty years she has had pains in the face and side of the head, which she called rheumatic: she has frequently miscarried. The menses ceased two years and a half ago. About a year since she first perceived that her face, on the left side, was somewhat enlarged; the swelling has never diminished. Six months ago she found that the gums on the left side were swelled, and three months since she had a tooth extracted, after which the swelling increased more rapidly than before. Her present state is not that of good health, and she has the appearance of a person used to stimulants; she acknowledges to smoking, but not to drinking. There is some slight tremor about her, the tongue furred, and pulse weak; the teeth that are left are blackened; there are none on the left side of the upper jaw, and only stumps on the lower jaw of the left side. The left cheek is rather more prominent than the other, but there is not much deformity of the face, as the eye and nose are not encroached upon. On examination within the mouth, the alveolar ridge of the left maxilla is expanded and enlarged so as to press downwards upon the lower gums deeper than the length of the teeth that yet remain *in situ*; there is no ulceration in the mucous membrane covering the tumor, nor is there any blush or adhesion to the tumor in the cheek. Firm pressure with the finger above the alveolar ridge produces a slight crackling sensation, from the thinned anterior surface of the antrum giving way, but the pressure being continued, a firm resistance is met with, as if a hard substance was brought into contact with the finger; there is

no obstruction in the nostril, nor can I feel any tumor on passing my finger backwards behind the soft palate. The palatine plate on the left side feels elastic, and is depressed, with some irregularities on its surface: I can feel the lower ridge of the orbit quite firm, and unimplicated in the disease at present. She was put upon good diet, with a little ale, and the nature of the disease was explained to her. As she thought the tumor was rapidly increasing, she did not appear to have much objection to submitting to the operation necessary for its removal. Before I operated, as some slight doubt seemed to be felt as to the contents of the tumor, I passed a small trocar into it, to the depth of about half an inch; the trocar was firmly held by the tumor, and not a drop of blood followed its removal: the wound appeared to have healed the next day.

There then remained no doubt that the present was the most favourable time for any attempt at removal that I could ever expect to have, and therefore the operation was decided upon. I was not without a hope that I could leave the orbitar plate of the maxilla untouched, but I was not so sanguine as to being able to leave the nostril intact, though I did not perceive any disease or obstruction in it.

December 24th, 1845.—The patient was brought into the operating theatre. I began my incision over the malar bone, and cut through the whole thickness of the cheek down to the bone, and extended the cut to the corner of the mouth. The coronary artery, as it could easily be tied, was secured, and I then quickly dissected up the cheek to just below the orbit. The infra orbirar artery was cut, and secured as it came out of the canal. Then, with a good pair of bone nippers, I snipped the superior maxillary bone at its junction with the malar bone. With the same nippers I divided the alveolar process just *outside* the nostril, by this means leaving the nostril intact. With a strong short knife (the metal of which passed down the whole handle) I was enabled to cut through the thinned anterior wall of the antrum, from one snipped portion to the other; and pressure being made upon the tumor, I found that it would become moveable, and would, as it were, enucleate from the cavity of the antrum. I then passed a finger of my left hand down the palate to behind the last molar alveolar process, and with a firm curved sweep of the knife, guided by my finger in the mouth, I cut through the thinned palate and mucous membrane. During this part of the operation I had the patient's head and body thrown forwards, to prevent, as much as possible, the choking sensation caused by the trickling of blood down the throat, and the irritation in the fauces. I took hold of the now loosened mass, and divided the small muscular and cellular attachments that remained. There was no more bleeding, and the woman, who bore the operation without fainting, was taken to bed; a sponge being placed in the cavity, and pressed upon for a short time. The operation, I was informed, (including the tying of the arteries, which I had not intended to wait for) lasted ten minutes.

The tumor upon section appeared to be white, firm, elastic, and fibrous, without bony spiculæ in its substance; it just filled the antrum, and was moulded to its shape. It evidently sprung from the alveolar surface of the antrum and palatine plate, for it was not attached to any other part. The whole tumor is perfectly defined, and is covered by the mucous membrane of the antrum. After waiting about a quarter of an hour on account of some trifling bleeding from a small artery in the substance of the malar bone, and which was stopped by pressure, I placed a piece of sponge, wrapped in linen, smeared with simple dressing, which I had found advantageous in my former case (on account of the ease with which it could be removed) in the cavity; the edges of the wound in the cheek were brought into accurate apposition (the two ligatures remaining out) and secured by the interrupted suture, and strips of plaster; a pledget of lint being laid over all, and retained by a strip of plaster. No bandage was used.

January 4th.—The wound in the cheek has healed by the first intention, except where the ligature upon the infra-orbitary artery comes out. The cheek feels thick, and not very moveable, and the hole in the palate is much smaller than I could have expected: it is chiefly to be seen at the back part of the mouth. We can understand the patient when she speaks, without much

difficulty, and she has always been able to take milk, beef-tea, and beer, with toast in it: she has required no medicine, except a dose of castor oil. The sponges were removed from the cavity on the fourth day, through the mouth, and I then could see the back of the antrum smooth and reddened. We had missed the ligature which had been placed upon the infra-orbitary artery, whilst the patient remained in the hospital, and concluded that she had pulled it off by some accident, but I have since heard that it came into her mouth a week after she went home: she was kept in the hospital for three weeks after the operation.

I think I saved this patient much trouble, and some deformity, by being able to leave the nostril and nasal process of the maxillary bone untouched, and the orbitary plate being also left, prevented the chance of deep-seated abscess in the loose cellular substance that occupies the orbit. The woman still continues well, with very little deformity, nor do I think that she need fear any return of the disease.

A short time after these cases occurred, Mr. Wood, the senior surgeon to the General Hospital, had occasion to remove, from the cheek of a young woman, two or three small tumors, about the size of beans, or nuts; the section of which showed exactly the same character as that of my patient, James Walton, and they would no doubt have grown in the same way, and become imbedded between the masseter and buccinator muscles, if they had been allowed to remain.

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## CASES AND OBSERVATIONS ON THE TREATMENT OF APOPLETIC AND PARALYTIC DISEASES.

By Edward Copeman, F.R.C.S.

[Continued from p. 590.]

Case V.— — Perry, æt. 70, head gardener to the Rev. ——, about the middle height, and inclined to be corpulent. For three or four years he has been troubled occasionally with asthmatic cough, but is generally in good health. Complexion florid. Rose at 5 o'clock on the morning of the 19th of July, 1845, quite well and cheerful, and went to his garden to nail up fruit trees. He was soon after taken speechless, and found leaning against the wall, insensible. I saw him between 7 and 8, A.M. His extremities were cold, pulse quiet, steady, and about 80, but easily stopped with the finger. Head very hot, and face a little flushed. Was making attempts to speak, but could not articulate. Occasional spasmodic contractions of different muscles on the right side, and paralysis of the right limbs. Appeared to understand what was said to him, and occasionally, with a great effort, got out a word or two in answer to questions. Put his legs into a large pan of hot water, with mustard added, and gave him a dose of castor oil, which he swallowed tolerably well. He was then put to bed, and had cold vinegar and water applied constantly to his head.

Mist. Cathart. 4tis hours. Empl. Lyttæ Nuchæ. Sinapisms to the legs, and stimulating liniment to be rubbed upon the affected limbs.

He was more composed when I left; breathing easily, heart acting naturally. Warm stockings and a blanket produced warmth in the feet and legs.

At 5, P.M., I found a material change in his condition. He was more somnolent, although not comatose, nor had he stertor. They told me he had been sleeping comfortably, and had occasionally tried to talk. I could not make him answer any question, or articulate any word, or put out his tongue; but he swallowed a little thin gruel, and I fancied he comprehended in some degree what was said to him. The surface of the whole body had become exceedingly hot, there was profuse perspiration on every part that was covered in bed; his face was much flushed, and purplish from distended veins. Pulse much stronger than in the morning. Bowels not open. From the great heat of skin, and external venous congestion, coupled with the tendency to asthmatic disease, I thought it right to relieve the circulation, and bled him to 7 or 8 ounces. His breathing seemed a little easier, and his face was less flushed; but the loss of blood made no difference in the state of the cerebral functions. Pupils alike and natural.

Enema purg. statim.

10, P.M.—About an hour after my last visit, he was taken cold and pale, "as

if he were dying;" he had "had a change," but soon rallied and became warm again. Skin now hot, and pulse 86; strong. Still sleepy, but I could rouse him sufficiently to make him swallow 5 grains of calomel. Bowels not open. The injection had not been given, so I now administered it. No power of moving the right arm or leg, neither could he articulate. He is certainly more apoplectic than when I first saw him this morning.

20th, 9, A.M.—Passed a quiet night, sleeping a good deal, and sometimes snoring; but his bowels acted well three times in the night, the blister had drawn well, and this morning he is decidedly better. He can move both arm and leg a little, and is able to articulate several words in answer to questions. Can put out his tongue, knows the persons about him, and attends as well as he can to directions given him, without delay. Pulse 84. Skin quite warm. No pain in the head. Muttered indistinctly, but intelligibly, that he hoped he should do soon.

Contr. Mist. Sennæ Cath.

6, P.M.—I found that his master, who was much attached to him, had just left him, after a long visit and too much talking. He was flushed and more hurried than in the morning, although in other respects not worse; but I felt that he had undergone too much excitement. Bowels acted four times during the day.

21st.—I was called at four o'clock this morning, but found it was in some measure a false alarm. He had been "dreaming uncomfortably," and moaning, and then broke out into a profuse perspiration, and these symptoms alarmed his attendants. They had passed off when I saw him, and he talked to me more distinctly than before. He was not very hot. Pulse good. No pain. Bowels acted once since last evening. I prescribed warm weak tea, with a good proportion of milk, and discontinued the purgative medicine. I saw him again at noon, when he was much the same, except that his breathing was impeded by a quantity of mucus in the bronchial tubes. I ordered him fifteen drops of Sp. Ammon. A. in camphor mixture, occasionally, and the chest to be rubbed with the liniment used for his limbs.

9, P.M.—Found him flushed, with a strong pulse at 84, but his breathing much relieved.

22nd, 9, A.M.—Passed a more comfortable night. Bowels not acted since yesterday morning. Pulse good. Skin not so hot. Breathing not quite so easy. Took an aperient draught this morning. Swallows well, talks better, and is able to tell me the time by my watch.

Enema purgans.

9, P.M.—Bowels have acted very freely, so as to tire him with the necessary disturbance. Pulse 90, full. Not much flushed all day. Soporose, but easily roused, and conscious as soon as roused. No more power in the paralyzed limbs.

℞ Hydr. c. Creta, ℈j.; Pulv. Rhei, ℈ss. M. ft. Ch. vj., sumat. j. n. et mane.

23rd, 11, A.M.—Found him very sleepy, and looking haggard; but when I roused him, he was quite conscious, and talked pretty well. Indeed, when awake his senses are not obtuse, which makes me less anxious about his being so frequently drowsy. Probably nature requires as much sleep as he gets, considering the frequent necessity for disturbing him both night and day. May not the frequent attempts to rouse an apoplectic patient, so generally resorted to, be unnecessary and injurious? From an over anxiety to test the capabilities of our patient, I fear we sometimes not only disturb him, but also interrupt the restorative processes which nature may be in the act of performing, and for which sleep may be necessary.

℞ Liq. Am. A. ʒiss., Sp. Æth. N. ʒiss., Mist. Camph. ad ʒvj.; Tr. Card. c. ʒiij. M. cochl. larg. ij. t. d.

24th.—A good night; tongue cleaner; altogether better.

26th.—I was summoned, in haste, at nine this morning. He had been languid and pale several times, with breathing more laboured than usual; and his friends thought he was dying. For some time they could not make him sensible, but he had rallied by the time I saw him. I did not think him so well as yesterday. He was sensible, skin warm, tongue inclined to be dry; there appeared to be more depression, and, although his pulse remained of fair strength, I ordered him a little

port wine and water, and a mixture containing decoction and tincture of bark. Urine healthy in odour and appearance.

9, P.M.—Has been better this afternoon, after taking jelly, custard, &c. Bowels not open.

26th.—Had a good night, and looks better to day; pulse good. Bowels open once.

Cont. Med.

27th.—Bowels nicely relieved this morning, after one of his powders followed by an aperient draught. Rather flushed at times, with a steady pulse at about 90. Tongue less furred. A little more power in the paralysed limbs.

Cont. Mist. Cinchonæ.

28th.—Can move his right arm much better this morning, lifting it off the bed for the first time. Respiration impeded by a slight bronchial rattle. Takes his ammonia mixture occasionally, which relieves it.

29th.—At two o'clock this morning he became more restless than usual, turning in bed frequently; and his wife thought him worse. In the afternoon the restlessness increased, but he afterwards slept soundly for three hours, and was then found to be almost insensible. I found him with a purple countenance; very difficult breathing, from accumulation of mucus in the bronchial tubes, and great loss of sensibility. He could not speak, and seemed scarcely conscious. I feared all chance of recovery was gone, and that he must die, the lungs being almost impervious to air, and the brain having nearly lost its functions from the circulation of imperfectly arterialised blood.

℞ Potass. Nitr. ʒj.; Ox. Scillæ ʒiij. Aquæ ʒj.; M. Capt. Cochl. min. j. 2dis horis. Empl. Lyttæ Thoraci. Mustard poultices to the legs.

He was so much better as regarded his apoplectic symptoms yesterday, that I much hoped and thought he might recover; and I attribute his relapse to-day to the difficulty of respiration from an aggravation of his old chest complaint.

30th.—To my astonishment I find him better again this morning. Instead of universal crepitation there was little more than slight rhonchus, and he breathed with much more freedom. The blister laid across the upper part of the chest had drawn well. He was quite conscious again, and able to speak as well as he had been before. Purple appearance of countenance gone; tongue clean and moist; pulse between 80 and 90, and of fair strength. Can move his arm and leg as well as he could two days ago. Bowels not open. This morning his wife discovered a bed-sore on the right buttock, proving how little dependence could be placed upon his pulse, which has always been of fair strength, as an indication of the general power of the system; and how necessary it was to avoid depletory measures, and to give tonics to strengthen the nervous system.

Cont. Gutt. Nit. Port wine and water frequently. Sago, gruel, broth, &c. ad libitum.

6 P.M.—Breathes freely, and is quite sensible.

Cont.

31st.—Passed a good night, and takes nourishment freely. Bowels not relieved since Sunday.

Adhib. enema.

Aug. 1st.—Bowels relieved yesterday after enema, but tongue more coated to-day. Quite sensible, but weak, although he has a full pulse at 84. Takes jelly, gruel, and wine and water, and to-day a little table-beer, which he craves: he also expresses desire for food. Bronchitic affection rather troublesome again to-day, but not so as to lead to purple countenance.

Cont. Gutt. et Capt. Quin. Disulph. gr. j. t. d.

Bed-sore discharging, and dressed with poultices.

2d.—Countenance a healthy pink colour; pulse soft, regular, and 84; bowels open; tongue cleaner; moves the leg and arm better.

Cont. med.

4th.—Found him sitting in a chair this morning, able to move his limbs better, and quite sensible; but he looks languid and feeble. Takes wine and water and jelly freely. Bed-sore looking better.

Diminished the quantity of nitre in the drops, and added Tr. Card. c. ʒss.

5th.—Pulse natural; countenance cheerful; better than I have seen him yet.

8th.—Slight difficulty of breathing to-day, and bowels not open, although he took his powder and draught.

Enema.

9th.—Tongue furred, and is more languid: bowels acted.

℞ Sp. Am. c. ʒij.; Tr. Card. c. ʒij.; Mist. Camph. ʒiiiss. M. capt. 4tam part. p. r. n.

10th.—Better to-day, but suffering from mucous rattle.

℞ Ox. Scillæ, ʒj.; Potass. Nit. ℈ij.; Tr. Buchu, ʒss.; Aquæ, ʒss. M. cochl. min. j. t. d.

12th.—Very feeble; although his pulse is firm and good, does not gain strength. Ordered—

Tincture of bark in port wine two or three times a day.

Tongue much loaded with loose white fur, and raw-looking underneath: bowels open.

14th.—This morning I was called early on account of a difficulty in swallowing, and I found his mouth aphthous, and his throat sore. Takes even fluid with difficulty, and appears much depressed. Pulse strong, between 70 and 80; some œdema of right hand. Ordered—

Mel boracis for the mouth; warm fomentations to the throat.

Am almost in despair at the repeated complications which his case presents.

15th.—To-day he is better; tongue quite clean; aphthæ healed; sore throat gone.

20th.—Has been gradually improving since last report, but is occasionally troubled with tenesmus from hardened fæces escaping in small lumps from the bowels, creating great pain. Purgatives relieve him.

Sept. 9th.—Is perfectly sensible; power of moving the limbs, especially the leg, considerably increased; bedsore quite healed; tongue clean; pulse good; not strength enough to sit up more than three quarters of an hour at a time.

Continue the bark and port wine.

Oct. 9th.—During the last month has been gradually gaining strength, without any return of uncomfortable symptoms; general health good; pulse and appetite good. Is able now to sit up in his arm-chair four hours at a time twice a day; moves his leg very well, and his arm much better than at last report; the ligaments of the shoulder are stiff, and he has pain there when any unusual effort is made to move the joint. Continues port wine and bark. His limbs are frequently rubbed and fomented.

The patient went on gradually improving in health, and recovering the use of his limbs. I saw him a few days since, when he had the appearance of a person in robust health, and was able to walk about with considerable firmness, even without the assistance of a stick.

Remarks.—The case of Perry I have reported at length, because it appears to me unusual in its progress and termination, and so capable of affording instructive lessons, that it cannot but be read with interest. Previously to his attack he was in good health, and had been so nearly all his life; except that latterly he had been troubled at times with chronic affection of the bronchial tubes. The attack, though sudden and severe at first, was partially recovered from, and he seemed to rally a little from the first shock; then came reaction; and it was so violent that I took away a small quantity of blood, notwithstanding my doubts as to the propriety of bloodletting: in future I should hesitate before I adopted such a step, as I cannot help feeling that this man's recovery was retarded by the bleeding. There was certainly excitement of the circulation, with strong pulse, hot skin, full veins, and a countenance implying impeded circulation through the lungs, but in various degrees these symptoms recurred two or three times during the progress of the case, and were removed without bleeding, and might probably have been so at first. Mark the consequences, immediate and remote, which followed, if they did not entirely depend upon the bleeding in the present instance: in about an hour he was "*taken cold and pale, as if he were dying*," although the quantity of blood removed was too small to have produced such effects, had not the disease rendered the system intolerant of loss of blood. Then the remote effects were such a depressed state of nervous power, that it was frequently necessary to give stimulants, although the pulse was never weak; and in spite of care

being taken to nourish him and strengthen him with tonics, he actually had a slough upon the buttock eleven days after the seizure, he having been in good health immediately before, and his disease being one that is often represented as of sthenic character, requiring full antiphlogistic treatment. I deem it not more proper to have recourse to blood-letting during the reaction succeeding an apoplectic attack, than for the relief of headache and delirium in typhus fever; I will not say that it *may not* do good in both instances, but am confident it is more likely to increase the mischief.

The state of the patient on the 29th was one of extreme danger, and, for the time, I had no hope of recovery; but the secretion of bronchial mucus, which threatened to suffocate him, was quickly remedied by small doses of potass. nitr.: those who have not hitherto tried the effect of this medicine, in attacks of chronic bronchitis with imperfect arterialization of blood, would be surprised to witness its value under such circumstances. During nearly the whole of the case there was evidence of debility of the nervous system, and the treatment consisted chiefly of purgatives and tonics; the latter, combined with wine and plenty of good broth, were given freely, in spite of temporary symptoms of excitement, strong pulse, flushing, &c., for they seemed to be less frequent visitors the more the system was supported, and were not at any time aggravated by what was taken.

Another important lesson to be derived from the above interesting history is, that the occurrence, during the progress of such a case, of what we may justly consider dangerous symptoms, does not point out a necessity for great activity of treatment; our better plan will be to take care not to do too much, but to wait patiently, and watch earnestly for an indication that may enable us to make a move in the right direction; by doing this, we shall assuredly find that our patients will sometimes struggle through great dangers and rally from frightful symptoms, when the efforts of the *vis medicatrix naturæ* are not interrupted by officiousness, but only aided and assisted by the dictates of sound judgment and skilful observation.

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ON THE

## DISPROPORTIONATELY SEVERE CONSEQUENCES OF SLIGHT INJURIES, &c. ABOUT THE POINT OF THE ELBOW.

By William Brown, Esq.
Surgeon, Callington.

Mr. Brown has favoured us with a communication on the above subject: we regret that we cannot afford space for the insertion of the entire paper, but the following is an abstract of its leading facts.

Mr. Brown has observed that, in working men, and more especially in miners, it almost constantly happens that comparatively slight injuries to the point of the elbow are followed by consequences which are quite disproportioned in severity to the extent of the original lesion.

A man receives a blow on his elbow which produces a slight abrasion. The individual continues to work, and, in a day or two, applies to the surgeon, with immense swelling and intense redness around the elbow, accompanied by great pain, tenderness, and heat, extending all the way down the forearm and hand. Frequently there is enlargement of the upper part of the arm, especially along the course of the lymphatics, and the axillary glands are affected. On examining the injury itself, a mere crust is found, showing that the inflamed state of the part has rapidly dried up the little wound. In other cases, where there is a more severe cut into the elbow, the same consequences ensue, but in an aggravated degree.

Here, also, the wound closes more speedily than is natural, and a scab forms, under which there will, perhaps, be found that there is some moisture and purulent matter. In some cases, in addition to the other consequences already described, the bursa over the olecranon becomes inflamed, enlarged to the size of an egg, and very tensely distended. This symptom, however, though frequent, is far from being constant; but, in the classes of persons alluded to, the other symptoms almost invariably occur, whether the injury be of a trifling nature or otherwise. The number of cases of this description which occur (in the author's neighbourhood) is

truly remarkable. In another set of cases, Mr. Brown has witnessed the occurrence of the results just described independently of any blow or accident whatever, but as arising from the tardy formation of a boil on the point of the elbow. The following is a strong illustration of these cases:—

H. J., about 65, a stone-breaker on the roads, of a bilious temperament, and extremely sallow complexion. He was badly clothed. About three weeks before he applied to the author a boil appeared on the point of the elbow, and slowly suppurated. He poulticed it for a considerable time, when it "broke." He afterwards attempted to work, but was obliged to apply for advice. At this time his state was as follows:—In the situation where suppuration had occurred there was an indolent lump; this was smooth, glistening, and livid. The elbow, forearm, and hand, were immensely swollen; and there was a deep lividity around the elbow. The forearm was rather cold than hot, and the swelling pitted very deeply. At first, indeed, it was not very easy to decide that there was not diffused suppuration over the greater part of the forearm, as there appeared to be so large an amount of fluid in the œdematous parts. This, however, was not the case; but, at the upper part of the back of the forearm, over the posterior surface of the ulna, there was a very large collection of pus; in fact, a phlegmonous abscess: this was deeply seated, and tolerably circumscribed. The glands of the axilla were enlarged. An incision, an inch and a half in length, was made along the inner edge of the ulna. The subsequent treatment principally consisted in the application of poultices to the elbow, and of hot fomentations to the lower part of the limb; and afterwards of a stimulating liniment to the œdematous parts. The forearm was of course suspended and kept perfectly at rest. In those cases where the mischief has arisen from injuries, it is not unfrequently found that, after the first swelling and other symptoms have been removed, the patient, upon again attempting to use the arm, has a return of the inflammation and of all its severe consequences.

The *treatment*, in the cases under consideration, should be as simple, but, at the same time, as effective as possible. Thus the arm should be kept perfectly at rest, and elevated in a sling. The best application to the wound itself is the milder mercurial ointment spread on thin lint. Then the elbow and the greater part of the forearm should be enveloped in a large poultice of bran or oatmeal, which ought to be hot and moist, and changed tolerably often. Hot fomentations may be applied to the entire limb whenever the poultices are changed. The required purposes will thus be answered quite as well as they would be by the plan adopted in some hospitals, for the cure of superficial inflammation, of enveloping the part in fomentation flannels, surrounded with taffeta. A purgative or two should be given at first to subdue the general disturbance of the system. As the activity of the inflammation yields, the heat, redness, and tension subside, and the swollen parts become œdematous, it is desirable to apply some stimulant to the hand and forearm; for this purpose, a camphorated ointment, with or without mercurial ointment, according to the nature of the case, may be employed, or a turpentine liniment, carbonized by sulphuric acid, may be used. The lint, spread with mercurial ointment, may still continue to be applied to the elbow.

In those cases where the bursa is also enlarged, it is first necessary to subdue the diffused inflammation, swelling, &c. The bursa is then found remaining as a tense round pouch or tumor. The author generally orders the free inunction of tartar emetic ointment over this tumor, to be employed night and morning. He regards this plan as less troublesome and more efficacious than the application of the blistering solution of iodine, as recommended by Lugol and Mr. Liston, in cases of synovial and other enlargements. He considers that the application of one or two common blisters would probably answer the desired end; but is of opinion that even this plan would be more painful and less simple than the inunction of the tartar emetic ointment.

March 17, 1846.

# MEDICAL GAZETTE.

FRIDAY, APRIL 17, 1846.

We elsewhere print a Memorial which has been forwarded to us by the Gloucestershire Medical and Surgical Association*. The fact that members of the College thus unite to express their sentiments respecting the conduct of the Council in excluding them from the Fellowship, is a sufficient proof that notwithstanding the lapse of time, and the suppression of any hope of immediate legislation for the profession, the feeling that great injustice has been done, has not died away. On the contrary, we believe that the quiet which has lately existed in the profession on the subject of medical reform, must be ascribed, not to any forgetfulness of the degrading position under which the excluded members feel themselves placed, but to the hope cherished by the words of the Home Minister, and by occasional rumours diffused through the medical press, that the Council of the Royal College of Surgeons were about to procure a Supplemental Charter from the Crown.

In our last article, we suggested that this would be not merely an act of justice to the old members of the College, who, by the Charter of 1843, have been placed below their juniors in the profession, but one of sound policy on the part of the Council, as it would tend to heal the dissensions which exist, and put an end to the numerous Associations which have been on every side formed against them. Of all kinds of injustice, that which is retrospective is the most difficult to be borne; and so well known is this feeling, that, except under very rare and peculiar circumstances, the legislature would pass no act, which, however it might change the future, would affect the past or acquired rights of individuals. For our part, we are at a loss to understand why one rule should be applied to acts of parliament and another to Royal charters; but that this equitable principle has been entirely abandoned in carrying out the Charter granted to the College in 1843, must, we think, be obvious to all who reflect upon the circumstances. Up to a certain date, the members of the College were equal in standing, and in their professional and other privileges*. Suddenly, without notice, a sweeping division was made, as the Gloucestershire Memorial truly informs us, "upon no intelligible principle of selection;" and there were elevated to the new dignity "a number of persons whose claim to such distinction is by no means apparent, entirely overlooking the relative ages, education, or professional attainments of the parties; thus inflicting the grossest injustice upon the other members of the College, and defeating, as far as it was possible, your Majesty's laudable and gracious purpose of affording a stimulus to professional exertion, and by that means of improving the practice of surgery in this country." Whatever rules the Council of the College chose to lay down for the acquisition of the fellowship by future members, they were, we consider, bound by every principle of equity, and by the common practice of the Legislature in enacting laws, to exercise the powers of their new Charter, so as to inflict the least possible amount of injustice upon those who had acquired, under the old

* Page 703.

* Since these remarks were in type, we have received a letter, signed "A Barrister," showing that the Council have acted illegally in depriving the old Members of any of their rights and privileges, and that they have violated their own by-laws. We shall find room for this letter in our next number.

Charter, the same rights and privileges as themselves. That all members of the College should have been *de jure* fellows might have defeated the objects of the Charter. This would have been tantamount to a mere change of name, and would have postponed the formation of a distinct and highly-educated class, until the present generation had entirely passed away. Again, a serious objection to this universal plan, although ridiculously exaggerated in one of the exculpatory addresses of the College, is, that it would have led to the admission of many unworthy members, who were either allied to quacks, or thriving by unprofessional dealings; "venders of quack-medicines, writers of indecent advertisements," &c. It was, therefore, obvious that some kind of selection should be made; but then, this should have been made fairly and openly. The principle of *favouritism* should have been allowed to exert no influence; whereas, although not, of course, acknowledged as the basis of selection, it is a notorious fact, that, but for the improper and secret exercise of this principle, a large number of the names upon the lists, would not have been introduced into them.

We are ready to admit that the Council had a most difficult task to perform, and that, to whatever plan they pursued, some dissentients would have been found; but it was still open to them to have avoided any imputation on their fair dealing, especially when the words of the Charter gave them the power of acting with the greatest liberality towards the old members of the College. Admitting that they thought it wise to restrict the fellowship to five hundred members,—in carrying out this principle, they ought in the first instance to have given due weight to age and to professional standing. They should have elected none, except by examination, who had not attained a certain age, or who had not been for a period of at least fifteen or twenty years, members of the College. This period might have been made longer or shorter according to circumstances: all that we say is, that this should have been regarded as one material ground of qualification; and that each of the old members should have been made a fellow, as his period of membership reached the standard. Undoubtedly the Council had both the power and the right to fix certain qualifications, independently of age and professional standing. They had a right, if they pleased, to exclude all who acted as apothecaries or sold medicines,—all who, *in foro conscientiæ*, were guilty of unprofessional practices, or who had otherwise rendered themselves unworthy of the honour of associating with the selected class of fellows. But then, the rule should have been regularly and fairly carried out. Men may act as apothecaries, and profit by the sale of medicines, either directly or indirectly by the aid of a partner with an apothecaries' license. If "*apothecarism*" is to be made a ground of exclusion, these individuals fall as much under the definition of apothecaries, as those who have taken out a license at Blackfriars, and they should have been excluded accordingly. Our conviction is, that the College lists were not framed on this principle; and herein lies one of the causes of dissatisfaction in the profession.

Had the Council pursued the course above suggested, and, in addition to a demand for other qualifications, had they given a due weight to the date of each member's diploma, there might still have been some dissatisfaction at the restrictions placed on the fellowship; but no one could have complained that his name had been unfairly passed over. The Council, however, appear

to have looked upon a plan of this kind as involving too large a consumption of time to be practicable; but while we think that they formed an erroneous opinion on this point, we cannot forget that those who have to dispense justice, consider no time to be lost which is devoted to a fair, open, and impartial consideration of a claim involving a question of right.

When, by any chance, it is made evident to a Court of law, that there has been some failure of justice—whether through inadvertence, accident, or design—it does not hesitate to order a re-hearing of the case. If it be made apparent to the Legislature, that, through any cause whatever, an Act of Parliament has been made to operate retrospectively and unjustly upon a section of the community, a remedy is immediately applied. To all persons, not interested parties, it must be obvious that the Council of the College have not carried out the principles of the Charter upon just and equitable principles towards the members. Equity has been disregarded; and, contrary to all custom and fair dealing, a measure intended for the *prospective* improvement of the profession has been made to act with *retrospective* injustice.

It is still open to the Council of the College of Surgeons to apply a remedy—to redress a wrong, by procuring another Charter, based upon principles analogous to those incorporated in the Gloucestershire Memorial, lately presented to Her Majesty. We wish we could hold out the hope that there was any present prospect of such a charter being obtained; but we now begin to doubt whether anything short of an Act of the Legislature will produce this desirable change; and the College of Surgeons may have again to struggle, with perhaps a smaller chance of success, in the hands of another Minister, against the foundation of a new College subversive of their powers and privileges. The presentation of many temperately expressed memorials, such as that upon which we have commented, is not likely to be without effect.

## Reviews.

*A System of Practical Surgery.* By William Fergusson, F.R.S.E. Professor of Surgery in King's College, London; Surgeon to King's College Hospital, &c. &c. Second Edition, with Illustrations, by Bagg. 12mo. pp. 668. London: Churchill. 1846.

*The Practice of Surgery.* By James Miller, F.R.S.E., F.R.C.S.E. Professor of Surgery in the University of Edinburgh, Surgeon to the Royal Infirmary, &c. &c. 12mo. pp. 680. Edinburgh: A. and C. Black. 1846.

In common with all reviewers, and indeed with most of those who feel anxious to see the knowledge of medical truths extensively propagated among all classes of practitioners, we are by no means advocates for the publication of extremely voluminous works upon professional subjects; and, as a general rule, we would, did it lie in in our power, prevent a large number of elaborate treatises upon a variety of subjects from being thrust into the hands of students, at a time when the most essential part of their labours consists in gaining a practical insight into the structure and diseases of the body in the dissecting room, and in the wards. But we would make exceptions to this rule with regard to two subjects, and state that,—if the student be expected to acquire any portion of his knowledge of medicine and surgery from reading,—the works upon those sciences recommended to his attention should be written upon a very extended and comprehensive plan, and be made to contain all those established facts and well-supported opinions upon the consistency of which the claims of medicine and surgery to the title of sciences, wholly rest. We would not

furnish the student with any "outlines" of surgery, any brief hints upon leading features in its practice, or in fact afford him any grounds whatever for pleading in after years, that the superficial character of his knowledge was attributable to the great imperfection and shallowness of the principles which he was directed to study. If any portion of his time should be allotted by the student to the attainment of book-knowledge, his labours should be applied to the acquisition of principles from those works on medicine and surgery which convey the most ample and extensive practical information upon every form of disease. Those who are called upon to recommend works for the perusal of students should make their selection with regard to the capacity of the acolyte's intellect, rather than to the size of his pocket. And the writers of "manuals" should reflect that it is scarcely wise to deprive the mind of its due supply of knowledge, merely that the vehicle of such knowledge may not be too large to be conveniently carried in the hand.

The above remarks have particularly suggested themselves to our mind since examining the former of the two works referred to above. We have no reason to doubt that the author of that treatise is a sound practical surgeon, and an able clinical instructor; but we certainly think that he has published a highly imperfect work on surgery, and one which, notwithstanding the accuracy of much of its contents, is not calculated to prove useful to the student, on account of the extremely superficial character of its details, and the frequent omissions of important questions by which it is characterised throughout. Had Mr. Fergusson entitled his work Outlines of Operative Surgery, its contents might have been found to correspond with tolerable accuracy to the title, but "a System of Practical Surgery," (*i. e.* a system containing even a fair outline of that knowledge of disease, and treatment, which every practical surgeon should possess)—it most assuredly is not. The duties of practical surgery extend as much, nay more, to the detection and medical treatment of local diseases, as to the various manual operations, which although they form the leading features of surgical works, must in reality be considered as merely the extreme resources of the scientific surgeon. In Mr. Fergusson's work we observe an almost entire silence upon a great number of leading points connected with the medical treatment of surgical diseases, and yet an allusion to some branch of this subject occurs just sufficiently often to prove that the author considers that the administration of medicines should form some part at least of the practice of surgery. The author's hints upon the preparatory treatment which it is necessary to employ before undertaking any serious operation are meagre in the extreme, and little notice is taken of the constitutional and local accidents which are liable to follow severe injuries—accidents which it is, of course, one of the most important duties of the practical surgeon to prevent or repel. The subject of diagnosis, also, is greatly neglected in Mr. Fergusson's work. It may be argued—but we contend not justly—that the above subjects belong rather to the "Principles" than to the "Practice" of surgery, and that a writer upon the latter subject should adopt Mr. Fergusson's plan of getting over the preliminary matters not connected with the anatomy of the parts with the utmost brevity, arriving at the operation as quickly as possible; and when that is concluded, pass on to a fresh subject as soon as may be: this plan, however, has not been adopted by Professor Miller, in his "Practice of Surgery." For this gentleman, although he might have been excused from dwelling upon these subjects, many of which have been considered in his former work, on the Principles of Surgery, makes fair allusion to most of them, and dwells upon many at considerable length. We observe in Professor Miller's work rather too great an inclination to curtail important subjects, evidently for the purpose of suiting his work to the "manual" convenience of his readers; but we find it difficult to form a just appreciation of the scope of Mr. Miller's treatise from not having a copy of the "Principles" at hand, as the pages of that work very probably supply many of the facts in which this is palpably deficient. And, here, we cannot avoid remarking upon the mistaken and injurious tendency of the idea which

appears even still to lurk in the minds of many otherwise sensible and able practitioners, that a distinct line can be drawn between the practice of medicine and the practice of surgery, and that the treatment of a disease can be advantageously pursued or discussed apart from the consideration of its probable nature and causes. The surgeon who does not combine with boldness, dexterity, and operative tact, a sound knowledge of pathology and therapeutics—who is not, in fact, a judicious and scientific physician, deserves no higher appellation than that of a clever mechanic—he is the exerciser of a dangerous art, not of a beneficial science; this fact cannot be too strongly inculcated upon the student's mind—principles and practice should always co-operate in the surgeon's thoughts. Upon these grounds, we consider that an author who discusses the principles and the practice of surgery in separate volumes, adopts an unfortunate arrangement of his subjects, while the writer who indites a work upon practical surgery, and neglects to enter into a full discussion of the medical treatment of surgical diseases, is likely to find that his literary attempt is productive of mischief rather than of good.

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*Uebersicht der Resultate Mineralogischer Forschungen im Jahre* 1843, von W. Haidinger. Erlangen. 1845.

*Retrospect of Mineralogy, for the year* 1843, by W. Haidinger. Large 8vo. pp. 150. Erlangen. 1845. Ferdinand Enke.

This work was undertaken by Haidinger as a report on the progress of mineralogical research for the German Scientific Association, which met at Gratz. The author has arranged, according to Mohs's system, all the recently discovered facts connected with a large variety of mineral and chemical compounds,—among which, new and improved analyses of known species hold a very important place. There is nothing in the volume which calls for especial notice or criticism. All the articles are borrowed from well-known periodicals, German, French, American, and English. A judicious selection appears, however, to have been made; and the details for each substance have been very properly reduced to a practical minimum. An interesting summary of the discoveries in light, heat, and electricity in relation to mineralogy, is appended to the work, as well as a specification of the localities in which any important researches in relation to minerals had been carried on during the year,—with an account of the foundation of Museums and Cabinets, and of the various publications on mineralogy in the period to which the retrospect refers. We need hardly say that this will be a useful book to the student of the science; and although it refers to a period of three years since, many of the facts will appear new even to the advanced chemist.

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*A Series of Essays on Inflammation and its Varieties.—Essay I. Natural History of the Disease, &c.* By Henry Clutterbuck, M.D. 8vo. pp. 67. London, Highley, 1846.

The object of Dr. Clutterbuck in publishing these Essays, is to develope a conclusion at which he has arrived, that most diseases either consist in inflammation, modified by many circumstances, such as the degree and stage of the disease, its particular seat in the body, the nature of the cause producing it, and the constitution and mode of life of the individual afflicted; or they are consequences of inflammation more or less remote. The great practical end at which the author aims, is to simplify treatment—to reduce the number of so-called remedies; and to indicate a more rational method of employing those which we possess. The result of long experience has led him to question "whether, with all our alleged improvements in science, and with a host of new and powerful agents at our command, we can justly boast of much greater success in our efforts to relieve or remove disease, than our early progenitors," p. xxii. According to the old saying, a beginner in the profession has twenty remedies for every disease; but the old practitioner reverses this hopeful view of physic, and would have no difficulty in naming on the spot twenty diseases without one remedy!

"Practically speaking," observes the author, "medicine still is as it always has been, to a great extent 'a conjectural art.' Nor do I believe it is ever destined to be

otherwise. From the natural and inherent obscurity of the subject, we are in a manner obliged to grope our way in the dark, rather than to march boldly on (as some affect to do), and are not unfrequently forced to retrace our steps."—p. xxiii.

Dr. Clutterbuck is a decided enemy to the present system of polypharmacy denounced by Dr. Forbes. He holds to the opinion that we should learn to *prevent* rather than to *cure;* and that a sweeping revision of our therapeutical resources for the treatment of diseases, is absolutely demanded.

The Essay before us is principally confined to an account of the general characters of inflammation, with its local signs and constitutional effects. The causes, nature, and varieties of inflammation, are afterwards successively examined.

The author's plan of condensing our knowledge upon this important subject is a good one, and deserves success. His style is clear and simple, and his arrangement logical. We would suggest, in the future parts, that each section should be terminated by a short summary of conclusions; and that the "italics" which now disfigure the pages should be somewhat more sparingly used.

## Proceedings of Societies.

### MICROSCOPICAL SOCIETY.

March 18th 1846.,

*On the Intimate Structure of Bone.*

A PAPER by the Secretary, John Quekett, Esq. "On the intimate structure of bone in the four great classes of animals;" viz. mammals, birds, reptiles, and fishes, with some remarks on the great value of the knowledge of such structure in classifying minute fragments of fossil organic remains, was read. After alluding to the highly important results obtained by Mr. Owen, by the aid of the microscope, in determining the affinities of extinct animals by means of their teeth, the author went on to state, that having for some time paid considerable attention to the structure of bone in the four great classes of animals, he had found certain characters peculiar to each great class, by which a bone of one class could be distinguished from that of another. He briefly described certain characters which were present in all bones, and then those which were peculiar to each class; viz. the Haversian canals, and the bone-cells with their little tubes (canaliculi), proceeding from them; and he applied the characters derived from the bone-cells to the determination of the class of animals to which any minute fragment may have belonged; for he had ascertained that the bone-cells were smallest in birds, a little larger in mammalia, and largest of all in the reptiliæ. The bone-cells of fishes were remarkable for their being so unlike either of the three preceding classes, that having been once seen they could not easily be mistaken. The author then noticed the relative proportions of the bone-cells and blood-corpuscles of the same animal, and concluded by remarking that, however different the size of animals of the same class may be, the bone-cells did not vary according to the difference in size: thus, the mighty iguanodon, some scores of feet in length, had no larger bone-cells than the smallest lizard which we trampled under our feet, nor the horse or the ox than the smallest of our quadrupeds, the mouse.

## Hospital and Infirmary Reports.

### WESTMINSTER HOSPITAL.

*A Case of Enormous Fungous Tumor of the Abdominal Walls.* Reported by Mr. FREDERICK WILDBORE, House-Surgeon: with Clinical Remarks, by B. PHILLIPS, Esq. F.R.S. Assistant-Surgeon to the Hospital.

JAMES GARISH, æt. 42, an ironfounder, presented himself as an out-patient at the hospital, on the 14th of November, 1845, with a large tumor of his abdomen. The tumor was then of the size of an infant's head, and it occupied the left side of the linea alba; it was clear at that time that it did not pass beyond the median line, but it was not easy to determine whether it came from the abdominal cavity, or whether it was entirely confined to the abdominal parietes. Its surface was spherical and equal; the consistency was pretty uniform, and not unlike that of a conglobate gland. The principal inconvenience then complained of was an inability to lie in the horizontal position, from the pressure of the tumor upon the diaphragm. He did not complain of any acute suffering, but there was considerable derangement of the abdominal organs, and obstinate constipation. There was a good deal of anxious expression about the face, and a yellowish tint of the skin. His condition made it desirable that he should be admitted into the house, and this was done; when taken into the house he gave the following history of his case. More than four years ago he first observed the tumor; it then occupied the left iliac

fossa, and was of the size of a duck's egg. He conceived it was produced by lifting heavy weights. From that time to the present it has steadily increased in size until it acquired its present magnitude. Until six months ago it did not occasion him much uneasiness, nor make it necessary that he should desist from his ordinary employment. At that time he suffered so much lancinating pain in it that he applied at a Dispensary for relief, the tumor then being nearly as large as an infant's head. Till within a short time of his application to the hospital his bowels had acted with tolerable regularity, and his general health had been good. Mr. Lynn, under whose care he was placed, ordered turpentine enemata, with calomel and jalap purges occasionally. In the course of ten days his bowels began to act regularly. On the 23d of December he was made an out-patient, and the only observable change in his condition was in the size of the tumor, which had gone on steadily increasing, and in its consistency, there being a softening of its structure at two or three points. He suffered occasionally a little pain on the surface of the tumor, which was generally relieved by lead lotion; his appetite was good, and his general health seemed to be unimpaired. Mild aperients kept his bowels pretty regular.

From Dec. 23d to Feb. 12th, the only observable change was in the size of the tumor, which continued slowly but gradually to increase, extending upwards from the left iliac fossa through the lumbar region to the epigastric region, nearly as high as the ensiform cartilage; and filling the umbilical and part of the right lumbar and iliac regions, resting below upon the symphysis pubes.

On the 12th of Feb. a slight abrasion of the cuticle was noticed over one of the softened points.

March 14th, 4 o'clock, A. M.—The patient was readmitted. Two hours previous to his admission, the abrasion noticed on the 12th of Feb. gave way, and there was considerable hæmorrhage.

10, A.M. — A reddish mamillary point, the size of the end of the middle finger, projected from the ulcerated opening: hæmorrhage had ceased.

17th.—Slight oozing occurred at intervals, but in other respects there was no change.

19th.—Further portions of the tumor projected, forming a reddish, irregular, cauliflower-like mass; complained of pricking pain in exposed parts, but none in the tumor generally; and much constitutional irritation, with great anxiety, were then present.

21st.—While at stool, and making some effort, a considerable mass of fatty omentum-like matter was protruded, with some little bleeding. In the course of the evening this matter was entirely separated.

From this time the suffering became very severe. The stomach and bladder were especially distressed—the first by vomiting, the latter by incontinence. In this state of suffering he continued till the evening of the 23d, when he died.

*Post-mortem.* — The body was examined 18 hours after death. It bore the appearance of being well nourished, and when the integuments were cut through the muscular fibre was found to be firm and red. The only deviation from health apparent on the surface was a straw-coloured tint of the integument.

The thoracic viscera were not much removed from their state of health, with the exception of firm adhesions of the pleural surfaces; the results of old pleuritis.

The abdominal organs were healthy; the only deviation from the natural condition was to be found in the descending colon and rectum, which had become much narrowed from the pressure of the tumor upon them at the brim of the pelvis. At that point, and to some distance above and below, the intestine was not much larger than the little finger. The absence of any distension of the intestine above the point was a proof that the pressure had not been sufficient to interfere with the free passage of the fæcal matter.

Upon a careful inspection it was evident that the tumor was almost if not altogether confined to the abdominal walls; and so much of them as was necessary to include the whole of this enormous mass was removed. At one point there was a slight adhesion of the peritoneal covering of the parietes to the omentum, but it was recent, and readily gave way. It seemed to be a means of strengthing the very attenuated inner covering of the tumor at that point.

When removed the mass was weighed, and found to be nine pounds nine ounces. The whole of the posterior covering of the tumor was merely peritoneum; and at many points it bulged as if ready to give way.

To the touch the tumor appeared to be almost semi-fluid, and as a quantity of the contents equal to the size of two fists had come away on the day before his death, there could be no mystery as to the degeneration we had to do with. It was therefore determined that the parts should be hardened by maceration in a strong solution of bay salt and bichloride of mercury, that we might be better able to distinguish its relation to the parts with which it was associated.

The part which came away two days before his death was extruded with only very trifling oozing of blood. It had been pro-

truding for nearly twenty hours previously. A portion of it, while projecting, had a very strong resemblance to fat omentum, but when it separated itself it was evident that it was a layer of subcutaneous fatty matter. Another portion of it was extremely well-marked bloody fungus, or fungus hæmatodes. After four days' maceration, the tumor was examined, and when a section of it was made, it became at once apparent that the morbid structure was bounded, on its abdominal surface, by the greatly thickened peritoneum alone, and on its cutaneous surface by common integuments alone; and that the intervening structures were destroyed or converted. The section exhibited an extremely perfect specimen of medullary fungus. At some points the brain-like tissue, or soft cancer, was seen with scarcely any appearance of vascularity; at other points there was a delicate rosy tint, and the vascularity was clearly seen; at other points the tissue appeared of a dark-red colour, and loaded with blood; at others there were cavities containing fluid blood, and besides these, large masses of coagulated blood undergoing conversion. Altogether, it was an unusually perfect specimen of the progress of medullary cancer towards fungus hæmatodes.

Remarks. — From the first moment when this man presented himself at the hospital, Mr. Phillips exrpessed a strong conviction that the disease was malignant, and that it probably originated in the abdominal parietes. The history of the case left a different impression on some persons' minds. The fact that he was accustomed to lift heavy weights, and that he thought the tumor had presented itself while he was making some great exertion, led some persons to think that it was a protruded and probably disorganised omentum. The reasons which gave some countenance to that view of the case, were a doubt about the communication of an impulse to the mass upon coughing, and the obstinate state of constipation, which continued for some time, and which it is now evident was caused by the pressure of the tumor upon the rectum.

The growth of this tumor, like that of fungous products generally, was rapid. Its size was fully doubled between the period when he first presented himself at the hospital and that of his death. On his first admission, the tumor was tolerably well rounded, but as it increased, prominent points became apparent on its surface. At those points softening was obvious, and an elastic feeling to the touch communicated the notion of fluctuation. Erysipelatous redness then occurred at those points, and finally ulceration. From the ulcerations bloody serum and blood exuded, and bloody fungus projected.

A minute examination of this specimen of fungus hæmatodes shewed a certain amount of soft cellular structure; a certain portion of more or less hard lobular lard-like structure, and a certain other and more advanced portion, not unlike in consistency to the brain of an infant. Gradually its consistency lessened, until the brain-like matter became almost diffluent.

Its microscopical characters are thus described by Mr. Quekett:—

"I examined portions of the tumor, and found it to consist almost entirely of nucleated cells, most of which were of a caudate figure, and such as are generally found in all cancerous growths."

In this case the three distinct periods in the development of such structures were very well marked. The first, in which the consistency appeared very much like that of conglobate glands; the second, that of unequal softening; the third, of perfect breaking down, or semi-liquefaction, when the signs of fluctuation seemed most distinct. But the situation of the tumor was unusual; it is most frequently found to affect the liver, the mesentery and lymphatic glands, the lungs, the testicle, the eye, the brain, or the bones.

It is always found that when such a tumor occupies a point near the surface of the body, its development is more rapid than when it is deep-seated; and this was well exemplified in the present case.

The ordinary description of these tumors was well exemplified in the present case. They are always formed of an assemblage of different structures. Some are dense and glandiform, others are lardaceous, others are soft, pulpy, and brain-like. Meshes of blood-vessels are found in the fissures between them. When cut through, there is great variety as to colour and consistency. In one part a dark red mass alternates with one which is white, semi-transparent; then a mesh of blood-vessels; then a greyish diffluent mass; then yellow fatty matter, such as was extruded in this case during life; then a cavity filled with half coagulated blood. Sometimes these different parts are very distinct, at other times they are confounded together. These tumors are rarely encysted, but they often borrow a covering from adjoining membranes, as the peritoneum (which was the case in the present instance), or the pleura. They do not soon enter into putrid decomposition; they do not furnish ichor, nor any acrid or corrosive humor; they do not commonly exhale any offensive odour. When the brain-like mass is rubbed between the fingers, a gluey exudation is apparent, which contains gelatine or albumen. It was observed to string out in the present case.

In most instances this disease is not accompanied with violent pain; it is mainly

inconvenient when, by its weight, it drags upon the part, or by its bulk presses upon neighbouring organs.

It is proper that I should mention to you that some persons do not regard fungus hæmatodes as the last stage in encephaloid degeneration, but any one who saw the present case must admit that the fungus was the culminating point in the progress of the medullary disease.

One of the most constant characters of fungus hæmatodes was not present in this case. I mean the simultaneous development of the disease in many organs at the same time. Still it is a fact that in two out of the last three cases of fungus hæmatodes in this hospital, the disease was limited to the one point. The third case was not examined after death. It is said by Cruveilhier, that in particular parts the neighbouring glands do not suffer, even when ulceration has set in.

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## GUY'S HOSPITAL.

### *Obscure Case of Jaundice.*

Reported by Mr. Hemlcken.

J. B. æt. 32, was admitted into Naaman Ward, Jan. 28th, 1840. Married, but has been separated from his wife about ten years; he is a fruit-dealer, and exposed to the influence of the weather: has been residing at Maidstone, but for the last six weeks in London: is of temperate habits, and has enjoyed very excellent health, but has had an attack of small-pox and inflammation of the lungs. Parents dead. Father died of erysipelas; mother of cardiac disease.

About four weeks since he was attacked with severe pain in the right hypochondriac region, of a dull, aching, and gnawing character: he could not lie upon the affected side, yet the pain was relieved by powerful pressure applied to the part: he had not any pain in the shoulder. For this he took some aperient medicine, which removed the pain in three or four days. At this time there does not appear to have been much general disturbance. For some days previous to the attack his urine had been of the colour of dark tea; and he had been dyspeptic for a somewhat longer period. During the attack of pain the face became yellow, which was first observed by some friends, and now the urine was much darker; the colour of both these has gradually increased in intensity. About this time he had a severe attack of itching of the skin, which continued about four days, and then entirely disappeared. The head now became affected, having dull aching pain in that part, with drowsiness and occasional vertigo; these, however, disappeared in the day-time, and were only troublesome for about an hour in the morning. Has had a filthy taste in the mouth; some nausea and retching, but not any vomiting; the appetite has not failed, neither has he been thirsty; the bowels have been somewhat constipated; the fæces resembling mortar; vision has not been affected.

When young he had some hard swellings in the axillæ, of the size of sparrow egg, and two in each groin of similar size; these disappeared about ten years since; is subject to bilious attacks.

*On admission.*—A man of tall size, spare but muscular build; dark hair and eyes, and naturally of dark complexion; the pupil somewhat dilated; conjunctivæ of a yellow colour; countenance not distressed. The surface of the body of a rather dark yellow colour, that of the face having a tinge of green with it; the skin warm, dry, and harsh; does not complain of any pain; the appetite tolerably good, but has an uneasy sensation at the scrobiculus, with flatulence after taking animal food; this is not the case when taking diet; he is not thirsty, but complains of a foul taste in the mouth, resembling rotten eggs; the tongue red, moist, somewhat furred; pulse 76, rather small, and labouring; the bowels somewhat constipated; not any tumors or enlarged glands upon the surface of the body. He appears to have taken mercurial pills, so as slightly to affect the gums.

The liver may be felt reaching about three inches below the ensiform cartilage, apparently hard, but even upon its surface. Nothing morbid detected either in the heart or lungs.

Jan. 28th.—C. C. hepatis regioni, ad ℥vi.

℞ Pil. Hydrargyri, gr. iij.; Ant. Pot. Tart. gr. ¼; Extr. Coloc. Co. gr. vi.; Extr. Hyoscyam. gr. iij. ft. Pil. ij. omni nocte sumend. Mist. Magnes. c. Magn. Sulph. ℥iss. ter die capiend.

30th.—For the last two mornings he has had much pain in the head, occasional vertigo, and felt remarkably drowsy: this disappeared in about two hours, and he was tolerably well for the remainder of the day: the bowels have been freely purged; the fæces resembling pipe clay, and very fœtid. Still complains of the filthy taste in the mouth, and of the sputa having a bitter taste; tongue of the same character; pulse 68, labouring.

29th.—Urine acid; 2½ pints; sp. gr. 1·015, very dark, becoming of a bright green upon the addition of nitric acid, but not undergoing any other change.

30th.—Urine acid; 2½ pints; sp. gr. 1·015; of the same character.

31st.—Has been relaxed seven or eight times within the last 24 hours, with much griping pain in the abdomen; has frequent nausea, but not any vomiting; the colour has not undergone any change. Urine 2 pints; sp. gr. 1·010; acid; of the same character.

℞ Mist. Gent. Co. ℥j.; c. Extr. Taraxaci, gr. xv. ter die sumend.

Feb. 2d.—Urine 5 pints in 48 hours: sp. gr. 1·015.

3d.—The relaxation of the bowels continues; had much nausea and retching this morning; tongue tremulous, red, covered with a thick tenacious mucus; pulse 84, natural; no change in other respects.

℞ Extr. Taraxaci, gr. xv.; Acidi Phosphorici, gr. xxv. ter die sumend. ex Julep Menthæ.

℞ Pil. Hydrarg. gr. ij.; Extr. Coloc. co. gr. v.; Extr. Hyoscyam. gr. iij.; ft. Pil. o. n. cap.

4th.—Urine 2½ pints; sp. gr. 1·015; alkaline; still very dark.

5th.—Urine 2½ pints; sp. gr. 1·010; alkaline; still very dark.

6th.—Urine 1¾ pints; sp. gr. 1·015; alkaline; still very dark.

Is purged about four times in the 24 hours; the dejections are a shade darker, but still very fœtid and abundant; tongue covered with a thick tenacious mucus; pulse 96, small and sharp; says he feels more comfortable, but the pain in the head continues every morning; foul taste in the mouth not relieved.

Beef-tea and Arrow Root. Pergat.

7th.—Urine 3 pints; sp. gr. 1·010; acid; dark, clear.

10th.—Urine 5 pints; sp. gr. 1·015; acid; dark; has a very foul smell. Complains of much thirst; rests very badly at night, and is much troubled with dreams of a busy kind; feels very weak; tongue dry, rather brown and glazed in the centre; loss of appetite; bowels constipated; not any alteration in other respects.

Appl. Empl. Lyttæ, region. hepatis.

℞ Extr. Coloc. Co. gr. viij.; Extr. Hyoscyam. gr. iv. omni nocte sumend. Mist. Gent. Co. c. Sodæ Pot. Tart. ℥j.; Extr. Taraxaci, gr. xv. ter die sumend.

11th.—Urine 3 pints; sp. gr. 1·012; of the same character; when placed under the microscope it is found to contain large quantities of epithelium scales, with large globules.

12th.—The blister did not rise; some Acetum Lyttæ was applied, which caused a small blister. Complains of being exceedingly weak; loss of appetite; great thirst; pain in various parts of the body; tongue dry and parched, transversely fissured; bowels again relaxed; the dejection of the same character; skin dry and harsh; still complains of the filthy taste in the mouth, and pain in the head; the colour of the face is of darker colour, and rather black.

℞ Extr. Taraxaci, gr. xv.; Liq. Potassæ, ♏xv. ex j. Menth. ter die sumend.

14th.—Urine 4 pints; sp. gr. 1·012; clear, dark.

16th.—Urine 3 pints; sp. gr. 1·012; clear, dark.

Augeatur dos. Liq. Potassæ, ad. ♏xx.

17th.—Urine 3 pints; sp. gr. 1·012; clear, dark.

18th.—Urine 3½ pints; sp. gr. 1·010; very dark, clear; appears to become weaker daily; does not complain of anything else; the colour of the face is now yellowish-green.

Rept. Omnia.

19th.—Urine 2½ pints; sp. gr. 1·015; of the same character.

20th.—Urine 3 pints; sp. gr. 1·015; of the same character.

21st.—Urine 2½ pints; sp. gr. 1·015; of the same character. Says he had a tremendous attack of itching of the skin this morning, more particularly about the arms and legs, which continued ten minutes; pulse 80, weak, soft; the tongue of the same character; does not appear any improvement in other respects.

Rept. Omnia. Rulv. Rhei c. Cal. gr. xv. hac nocte sumend.

23d.—Urine 3 pints; sp. gr. 1·015; very dark and foul.

24th.—Vini Albi, ℥iv. quotidie. Rept. omnia.

25th.—Urine 3 pints; sp. gr. 1·012; very dark and foul.

26th.—Urine 5 pints; sp. gr. 1·010; very dark and foul.

27th.—His face is now of an extraordinary colour, being of a very dark-green colour, the remainder of the body being yellow; feels weaker daily, and looks very bad; the features sharp; the tongue very much loaded with a thick tenacious mucus, transversely fissured; senses somewhat dull and stupid; the other symptoms remain unabated; pulse 80, soft and weak. Urine 7 pints; sp. gr. 1·010; dark as treacle.

28th.—Urine 6 pints; sp. gr. 1·015; dark as treacle.

March 2d.—Appears to become weaker daily; only complains of debility, great

thirst, and of dryness of the throat, with the taste of rotten eggs in the mouth; he varies somewhat in colour, but is usually of a dark olive-green.

2d.—℞ Succi Limonum. et Mellis partes æquales, sæpe sorbend. Rept. omnia.

4th.—Urine 2½ pints; sp. gr. 1·015; of the same character. He is now much troubled with retching; pulse 112, small and weak; bowels regular; stools of a very pale fawn colour; tongue of the same character; the other symptoms remain unabated; the colour not altered.

Vini Rubri, ℥vj. quotidie. Rept. omnia.

6th.—Appears gradually sinking; sleeps with his mouth open; the tongue exceedingly foul, transversely fissured; aphthous at its edges; the colour of the face varies somewhat, but is mostly of the same colour, and at night he has a most ghastly appearance; the dejections have still the same appearance; the other symptoms remain unaltered.

Rept. omnia. Cerevisiæ, oct. j. quotidie.

The urine is still of a dark colour, and very abundant; when placed under the microscope it is found to contain myriads of vibriones.

8th.—He gradually sank, and died at 1½ P. M., the intellects not being affected: the colour remained unaltered.

*Account of inspection after death, by Dr. Gull.*

Liver not enlarged, weighing three and a half pounds; its tunic was thickened at three points of its surface; each to the extent of a square inch, one situated near the free edge of the right lobe, one on the upper surface of the same lobe. The same appearance was present in the left lobe; the under surface of the liver was lobulated from contractions of the tunic; its contour was too rounded. All the appearances shew, I think, previous inflammation and enlargement of the organ. The ducts were pervious in every direction, and not enlarged; they were stained with dark-green secretion, which when microscopically examined presented nothing abnormal, consisting entirely of the columnar epithelium which lines the tubes in health. The smallest visible tubes seemed entirely healthy; no mucus, pus, or exudation globules could be seen. The secreting (?) lobules were of a dark olive-green colour; the cells were loaded with bilious secretion; they were thick and rounded.

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# Medical Trials and Inquests.

WESTERN CIRCUIT.

Winchester, Friday, March 6th, 1846.

*The duel at Gosport.—Criminal responsibility in cases of death from surgical operations.*

THE whole of the circumstances of the late Mr. Seton's case*, the nature of his wound, the views which led his surgical attendants to perform the operation of tying the external iliac artery, and the results which followed that operation, have for several months been fully open to the consideration of medical men. But in the recent trial of Mr. Pym, at Winchester, a leading principle was laid down by the presiding judge, Mr. Justice Erle, which is not only important as affecting the responsibility of individuals charged with the crime of homicide, but which also, to a certain degree, concerns surgeons who are engaged in the treatment of persons suffering from wounds inflicted with felonious intent. We shall principally quote those portions of the trial which gave occasion to the judge's declaration, that the expediency or non-expediency of an operation performed by qualified surgeons, does not at all affect the criminal responsibility of the individual inflicting the injury which, in the opinion of the surgeons, rendered that operation necessary; and that the party who inflicted the wound is responsible for the consequences of such operation.

Mr. Rawlinson, in stating the case for the prosecution, observed, that during the progress of Mr. Seton's case the wound assumed a character which led his medical attendants to consider that their patient's life was in imminent danger, and that his case required the greatest skill and care. In consequence of this, they sent for the best advice from London, and Mr. Liston (upon whose surgical skill and judgment the learned counsel strongly dwelt) came down, to be present at a consultation with the other medical attendants, as to what ought to be done. They gave the subject the fullest consideration, and were satisfied that, without an operation, the life of the deceased could not be preserved; and nothing but that necessity would have induced Mr. Liston and the other medical gentlemen to perform an operation. That the operation was performed with the greatest possible skill, no one could doubt. The law upon

* This case, with some others, tried at the late Assizes, has been for some time prepared for insertion. It has, however, been kept back in order to give precedence to several original communications which had been for several weeks in hand.

the subject was this:—If a party inflicted a wound upon another, and, in consequnce of it, an operation *became necessary*, and the party died under the operation, there could be no doubt that the party who inflicted the wound would be answerable for the death which followed. If, therefore, the jury were satisfied that an operation was necessary, there was no doubt that the party who inflicted the wound was answerable for the death of the deceased. The deceased died from inflammation which had extended over the whole peritoneal cavity of the stomach. The jury would find, that from the evidence of the medical witnesses, this result had never followed in other cases. (We do not find that this last assertion was subsequently corroborated by the medical witnesses). "The question was, whether the operation was not absolutely necessary, looking at the state in which the deceased was at the time of the operation."

In the opinion of the judge, however, it was not requisite that the absolute necessity of the operation should be proved in court; for during the cross-examination of Mr. Jenkins, one of the medical witnesses, by Mr. Cockburn, counsel for the prisoner, Mr. Justice Erle interposed, and said, "the learned counsel, no doubt, preferred to tender counter-evidence. He had considered this part of the case, and, in concurrence with his brother judge, had come to the conclusion that, if a party received a dangerous wound, and medical men were called in, who treated him according to the best of their judgment, and death arose from their treatment, the party inflicting the wound was still responsible. The cross-examination by Mr. Cockburn could get no more, at the utmost, than that death was the consequence of surgical treatment; which he (the learned judge) should assume was *bonâ fide*, that is, undertaken with the best intention.

Mr. Cockburn said, the jury were to decide whether the deceased had died in the manner laid in the indictment. It was a novel question, and a most important one in this case.

Mr. Justice Erle:—The question had repeatedly arisen in this country, and in Scotland. The only case he knew of in which the rule was departed from, was that of a man who was wounded by another, and was put into a hospital where he contracted a disease, and died.

Mr. Cockburn:—Suppose the wound was not dangerous, and the treatment of a surgeon caused the patient's death.

Mr. Justice Erle:—That would not avail ou. The question is, whether the gentlemen who were called in were *bonâ fide* of opinion that the operation was necessary; if they formed a wrong opinion, that is no reason why the party inflicting the wound should get off with impunity. There were only three or four points: there was a wound of this description, which caused a pulsating tumor; the gentlemen called in were of opinion that, from that pulsating tumor there was immediate danger of life, and in their judgment an operation was advisable, and this operation was the immediate cause of death. You propose to tender the evidence of other eminent surgeons, that the operation was inexpedient.

Mr. Cockburn:—With the view of getting the opinion of the jury, I contend that a man cannot be responsible for a result which is caused by the act of another man.

Mr. Justice Erle:—You propose to refer this question of skill to the medical knowledge of the gentlemen of the jury.

Mr. Cockburn:—I propose to show, from the statements of the medical witnesses, and from the evidence of other eminent surgeons, that the opinions of the medical attendants of the deceased were wrong, and that if they had let the deceased alone, his life would not have been shortened. Even if I only leave the matter in doubt, by the conflict of opinions, the prisoner is entitled to the benefit of it.

After a considerable discussion, and after the learned judge had conferred with Mr. Baron Rolfe in the other Court, who concurred with him, the learned judge adhered to the decision he had expressed; and Mr. Cockburn was considered to have tendered evidence to show that the deceased was not in danger from the wound, and that the operation was not necessary to save his life; in order that the point might, if requisite, be raised hereafter.

The cross-examination of Mr. Jenkins was consequently terminated*. The evi-

* As the question here mooted forms one of the leading features of the case, we shall also quote the observations of Mr. Cockburn and of the learned judge, from a report of the trial which has appeared in the *Law Times*; as in this statement the expressions used are probably given with more technical accuracy than they are in the newspaper account.

Mr. Justice Erle interposed.—I presume you propose to call counter-evidence and impeach the propriety of the operation, but I am clearly of opinion that, if a dangerous wound is given, and the best advice is taken, and an operation is performed, under that advice, which is the *immediate* cause of death, the party giving the wound is criminally responsible.

Mr. Cockburn.—I propose to show that the opinion formed by the medical men was grounded upon erroneous premises, and that no operation was necessary at all, or, at least, that an easier and much less dangerous operation might and ought to have been adopted. I may therefore cross-examine the witnesses as to the grounds of their opinion. I shall submit that a person is not criminally responsible where the death is caused by consequences which are not physically the consequences of the wound, but can only be connected with the first wound by moral reasonings, as here that which occasioned death was

dence of Drs. Mortimer and Stewart was then heard; it was to the effect, that the operation performed by Mr. Liston was the only means which afforded a chance of saving the patient's life.

In the cross-examination of Mr. Allan, who made the *post-mortem* examination of Mr. Seton's body, the question was again proposed, whether death would have occurred if the operation had not been performed? Mr. Allan replied, that, in his judgment, the operation was necessary; it was impossible to say whether death would have arisen if the operation had not been performed. Aneurismal tumors have been spontaneously cured: he thought it vague to form an opinion upon the danger of life; with machinery you may give a decided opinion, but not so with animal life.

Mr. Cockburn, upon the cross-examination of this witness, again raised the doubt he had argued before, adding, that if competent medical advisers set up a new cause of death, as in this case, how could it be said that the original wound was the cause of death? Here, the wound was neither the original nor aggravated cause of death.

Robert Liston.—I am a surgeon in London. On the 30th of May I came to Portsmouth to see Mr. Seton. I was informed by the surgeon of the first discovery of pulsation in the tumor, and of its progression. I observed the wound. Mr. Seton had all the appearance of having lost much blood. Some large vessel must have been wounded, from the effusion of blood. The danger to be apprehended from such a wound is violent bleeding on the separation of the sloughs. The bleeding might have been stopped by the formation of a coagulum; a false aneurism would be formed. The tying of the iliac artery was necessary. The danger from allowing the false aneurism to go on would be from violent bleeding, which might have proved instantly fatal. In my judgment no other operation would have been prudent than that of tying the iliac artery.

Mr. Cockburn objected to this question, as he was shut out from proving the contrary.

The learned judge overruled the question, upon the principle he had before stated.

When the case for the prosecution closed, Mr. Cockburn took an objection to the form of the indictment, which laid, as the cause of death, the pistol shot fired by Lieutenant Hawkey; whereas, he submitted, it was necessary to set forth the real state of the facts—that is, the wound—the treatment of the wound by the surgeons; and that an operation in the course of that treatment had occasioned death. He supported his objection by referring to the cases of "The King *v.* Kelly," Ryan and Moody's Crown Cases, 113; "The King *v.* Thompson," *ibid*, 139; and "The King *v.* Martin," 5 Curr. and Payne, 128. These cases showed that the intermediate as well as primary cause of death must be set forth. In the present case, the wound inflicted by Lieutenant Hawkey might have been the primary cause of Mr. Seton's death, but it was not the proximate or immediate cause; there was something—not the act of the prisoner—supervening, which was the actual cause of death, and this intermediate or supervening cause did not appear on the face of the indictment.

Mr. Serjeant Kinglake followed on the same side, citing other authorities.

Mr. Justice Erle was of opinion that this was a good indictment. He had already laid it down, that the person who gave the wound was responsible for the consequences of the medical treatment, provided that medical treatment was by men of competent skill. Thinking that to be the law, the medical treatment was to be considered as one of the ordinary consequences of the wound, and need not be stated in the indictment, which charged the act for which the prisoner was responsible, namely, the firing of a pistol-bullet into the body of Mr. Seton.

The objection of the counsel for the prisoner on this point was not further urged.

In summing up, the learned judge again repeated his opinion that "*if a party received a wound, and recourse was had to medical treatment, under which he died, the man who gave the wound was respon*;

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the operation which supervened upon the wound because the medical men thought it necessary. The point has never been solemnly decided in this country. The cause of death is a question for the jury.

Mr. J. Erle.—I am clearly of opinion, and so is my brother Rolfe, that where a wound is given which, in the judgment of competent medical advisers, is dangerous, and the treatment which they *bonâ fide* adopt is the immediate cause of death, the party who inflicted the wound is criminally responsible, and, of course, those who aided and abetted him in it. I so rule on the present occasion; but it may be taken, for the purpose of future consideration, that it having been proved that there was a gun-shot wound, and a pulsating tumor arising therefrom, which in the *bonâ fide* opinion of competent medical men was dangerous to life, and that they considered a certain operation necessary, which was skilfully performed, and was the immediate and proximate cause of death; the counsel for the prisoner tendered evidence to shew this opinion was wrong, and that the wound would not inevitably have caused death, and that by other treatment the operation might have been avoided, and was therefore unnecessary. I will reserve this point for the consideration of the judges, although, as I have already stated, I have no doubt upon the subject. To admit this evidence would be to raise a collateral issue in every case, as to the degree of skill which the medical men possessed; consequently no evidence of the kind was given, but the point reserved."—*Law Times*, March 21, 1846.

*sible for his death."—Abridged from the Times Report for March* 9, 1846.

The jury returned a verdict of Not Guilty.

REMARKS.—The most remarkable part of Mr. Justice Erle's view of the important medical question raised in this case, and upon which, according to the report in the *Law Times*, he professed to entertain no doubt, although he was ready to reserve it for the consideration of the judges, was this: that if a wound were, in the judgment of competent medical advisers, dangerous to life, and they were *bonâ fide* of opinion that an operation was necessary, that this operation was skilfully performed, but was the immediate and proximate cause of death, the prisoner would be responsible for the result. "To admit evidence to shew that the medical opinion was wrong, or that the wound would not have caused death, and that by other treatment the operation might have been avoided, was unnecessary; as, to admit this evidence, would be to raise a collateral issue in every(?) case as to the degree of skill which the medical men possessed.

It has been hitherto wisely and justly considered, that a prisoner charged with murder should be held responsible for the results of medical treatment; but then, in all the cases that have yet occurred, the question has been much more limited than the ruling of the judge, as above given, would imply. The operation or treatment was not only necessary in the opinion of the medical men during life; but after death, nothing was discovered in the body to throw a doubt upon the correctness of that opinion. The case, however, here appears to us to have stood upon somewhat different grounds: for while there was no dispute about the skilfulness with which the operation was performed, or that it was the immediate and proximate cause of death, the prisoner's counsel professed to be able to prove to the Court, that the operation was not necessary according to good professional practice. There was also another peculiarity in the case, namely: that this line of defence appears to have been adopted chiefly from the results of the post-mortem examination. The evidence for the prosecution showed that several professional men of good experience agreed that the operation was in their judgment really necessary, *from the condition of the patient during life*. Even supposing that one or two had differed on this point, this circumstance could not have affected the propriety or necessity for its performance; since it is a frequent occurrence in hospitals, that operations are performed according to the opinion of the majority of surgeons consulted; and it would be in the highest degree unjust, in a case of urgency like that of Mr. Seton's, to rest the question of responsibility upon the assumption that the operation would be improper unless every surgeon agreed that it was absolutely necessary. So far as the ruling of the judge extends to this part of the case, it appears to us to have been quite in accordance with justice and common sense.

But we come now to what appears to be an exceptional feature in this case. The post-mortem examination showed "that the ball passed altogether in the subcutaneous fat,—that it did not pierce the fascia lata, and *that the only vessel wounded, and forming the false aneurism, was a superficial branch of the femoral artery*. The vessel was divided close under Poupart's ligament, and nearly an inch from its separation from the main trunk,—its divided extremity being perfectly open*." The *medical* question appears, therefore, to be this: "Is it necessary, or is it the common practice, to tie the external iliac artery for an injury of this description? Would the majority of surgeons undertake this formidable operation for a wound of a superficial branch of the femoral artery? We believe that the answers would be in the negative, because the risks from the operation must be greater than those to be expected from such a wound. The *legal* part of the question appears to be: "When most medical men (and in this case experienced medical men) concur in the propriety and necessity for an operation in the treatment of a wound *before death*, is the result, so far as the prisoner is concerned, to be affected by what is discovered on a post-mortem examination?" In other words: "Is the *legal necessity* for an operation to be tried by what appears to *bonâ fide* judgment during life, or by what is revealed after death?" According to Mr. Justice Erle's ruling, as we understand it, the necessity for an operation cannot be questioned, when, in the opinions of competent men acting *bonâ fide* during life, it was thought necessary and was skilfully performed.

We should not presume to question the correctness of the opinion of the learned judge, did not the facts bear strongly on professional practice; and did we not know that judges themselves, and the most able writers on criminal law, differ in their views respecting it. We think, however, if this ruling were applied to all cases, manifest injustice would be the result. The legal authority on which we shall venture to base our view of this question, is that of Lord Hale, who states, that an aggressor would not be responsible for the murder "if the death of the party were caused by *improper applications* to the wound, and not by the wound itself." Are we to regard an operation, assuming it to be proved by an inspection of the dead body not to be necessary,

* See Mr. Potter's Report, Vol. xxxv. p. 390.

as coming under the head of an *improper application?* There is nothing, we believe, more explicit in the law-books; and the language may be regarded as sufficiently vague to allow of some difference of opinion. This, however, appears certain;—unless unnecessary operations were regarded as "improper applications," or modes of treatment, Lord Hale's doctrine would be a nullity.

Let us take the following case:—A medical man may be incompetent; he may be *bonâ fide* of opinion that an operation is necessary when it is not; the operation may be performed unskilfully, and cause death. Is the assailant in this case to be made responsible for the result? Mr. Justice Erle's ruling in this case appears to lead immediately to the affirmative; because, although he certainly qualifies his judgment by speaking of competency, skill, and a *bonâ fide* opinion of the operation being necessary, yet he, at the same time, *assumes* the existence of all these, and refuses to let the case go before the jury for their decision on a balance of the evidence: and, in support of his opinion, he adduces a reason, which would effectually cut off inquiry in the case of death caused by the grossest surgical incompetency and ignorance; *i. e.* "to admit this evidence would be to raise a collateral issue in *every* case as to the degree of skill which the medical men possessed." The question does not here appear to us to be properly put. Such evidence could only be tendered in defence, with the slightest hope of success, when there were some strong facts to show improper treatment during life, or the inspection of the dead body clearly proved that an operation was performed under a mistake as to the real nature of the injury; and assuredly there may be cases, in which a reasonable view of the circumstances would justify the placing of the facts before the jury. This principle is continually acted on in civil cases of malapraxis, and why not, therefore, in the criminal law?* No professional man, who has acted *bonâ fide*, needs to fear an inquiry into his practice; and if unfortunately a post-mortem examination should demonstrate that his well-intentioned treatment (ending fatally) might have been dispensed with for some other less dangerous plan, we still think that no imputation could rest on him, especially when it is considered that those who objected most strongly to the plan pursued would base their objections upon data not before him at the time; *i. e.* the results of a post-mortem examination. Lord Hale tells us, that if a person dies from "improper applications" to a wound, the prisoner could not be found guilty of murder: but if a judge is to assume from the statements for the prosecution that the application (or the operation) has been proper, and to decline to allow evidence of the contrary to go before a jury, on the ground that this would raise a collateral issue in *every* case as to the degree of skill possessed by medical practitioners, we are at a loss to know how Lord Hale's reasonable view of the doctrine of responsibility, can be made applicable in any criminal case whatever.

A man has his leg fractured by a blow; a surgeon, acting on a *bonâ fide* opinion of danger to life, may amputate the leg: the wounded person dies from sloughing of the stump, or some other common secondary cause; and an investigation of the facts may show, that amputation was not necessary, and that the patient might have recovered without it. Is the person who inflicts the blow to be made responsible for the death? Is no inquiry to be instituted respecting the propriety or necessity for an operation always attended with danger to life? It is obviously impossible that anything can be known to the Court extra-judicially respecting competency, *necessity*, or skill, on these occasions, until all the facts have been laid before the jury.

But to take what may appear to be a nearer parallel to Mr. Seton's case. A man receives a severe blow on the groin; this is followed by a pulsating tumor, which is pronounced to be an aneurism of the femoral artery by three competent surgeons out of five,—(two dissentient); and the external iliac is tied. The patient dies in about thirty-six hours, from peritonitis; and after death it is found that the tumor was not an aneurism, and had no connection whatever with the femoral artery. Is the person who struck the blow to be made responsible for the death? On the ruling of Mr. Justice Erle he would be:—yet could we regard such a decision as based upon equitable principles? If not, the questions of competency, skill, and more especially *necessity*, in surgical operations, are very important to the issue; and as a matter of fairness to the prisoner, they ought to be allowed to go before a jury for their decision. The case above supposed, if we mistake not, actually occurred in London dur-

* This issue respecting the degree of skill is raised and left to the decision of juries in all civil actions for malapraxis against medical practitioners. Supposing this to have been an action for damages against a medical practitioner for performing an unnecessary operation, and thereby disabling a man: the question of skill, or the necessity for the operation, and the mode of performing it, would have been referred to the medical knowledge of the gentlemen of the jury. We doubt whether it would have been *assumed* that the operation was expedient and proper. The proof of *bonâ fides* might be equally clear in both cases: it is not likely that either a skilful surgeon or a bungler would perform a dangerous operation *malâ fide*, as in such a case he might chance to find himself the subject of a criminal prosecution!

ing the last year, with the exception that the tumor did not proceed from a blow. There could not be the slightest imputation upon the competency or skill of the surgeon who performed the operation, on his *bonâ fide* conduct throughout, or on the judgment of those who agreed with him that the tumor was an aneurismal tumor. Our object in bringing this case forward, is to show,—that the *necessity* for an operation, even when only resting upon an inspection of the body, is, or ought to be, an important ingredient in determining the responsibility of the person inflicting a wound: and it appears to us that a proper interpretation put upon the words of the law, as laid down by Lord Hale, would bear out this view.

We consider it unnecessary to enter into that case which has been adverted to by some writers on criminal jurisprudence; namely, that under more favourable circumstances, and with more skilful treatment, the fatal result might have been averted. This, even if proved, should be no ground of exculpation; because, if the wounded person receives the best care of the practitioners in the locality, it ought to make no difference whether he would have recovered or not in the hands of a more skilful surgeon. The question was not one of skill in Mr. Seton's case, but of the *necessity* for the plan of treatment pursued. Again, it appears to us unnecessary to the issue, whether the person would have died or not, supposing that the plan of treatment objected to had not been adopted. In Mr. Seton's case, some thought that he would have died ultimately from the wound;—others thought that he might recover. Taking the result of the post-mortem examination, there was nothing to show that the wound was in itself absolutely mortal: and there are many instances on record of individuals recovering, (unexpectedly to their medical attendants), from much more severe injuries, including gun-shot wounds, than those proved to have existed in the case of Mr. Seton. Instances of this kind are not to be drawn into a general rule for predicting recovery under all severe injuries; but they serve to show, in a striking light, the fallibility of the best surgical opinions in respect to the mortality of wounds: and that there are few cases, in which a surgeon is in a position to declare with absolute certainty, that the individual must have died, whether a particular line of treatment had or had not been adopted.

The verdict in this case having been in favour of the prisoner, the point reserved cannot now be decided by the deliberate opinions of the whole of the judges. Without meaning by the remark to throw any censure whatever upon the surgeons who attended Mr. Seton, we are not among those who consider that a prisoner should be in any case held responsible for results depending upon a surgical mistake, whether that mistake be brought to light during life, or only after the death of the wounded person. Let every aggressor be held responsible for all the natural or accustomed consequences of an injury, whether these be or be not part of the medical treatment *bonâ fide* applied to them; but if, with the best intention, his medical adviser pursues a course attended with great hazard to life, which a subsequent examination of the deceased's body shows to have been altogether unnecessary and uncalled for, according to common professional experience, we think it admits of fair and reasonable doubt whether a man should be convicted of murder under such circumstances. The prisoner's counsel, in the Gosport case, went so far as to assert that "a man cannot be responsible for a result which is caused by the act of another man." This argument, however, is not merely contrary to reason, but to numerous recorded decisions. An operation may be skilfully performed,—its necessity cannot be questioned whether from evidence during life or after death; and yet it may be the proximate cause of death. It would be absurd to contend, in such a case, that the prisoner should be acquitted of the charge,—when, had not the act (*i. e.* the operation), been performed, and the patient died, the counsel would have been immediately prepared to assign the cause of death to the gross neglect of the medical attendants!

## Correspondence.

### STRANGULATION OF THE BOWELS FROM EFFUSED COAGULABLE LYMPH.

Sir,—J. P., a delicate lad, æt. 14, applied to me for medical advice, January 19, 1846, labouring under the following symptoms:—Diarrhœa, vomiting, slight pain and swelling of the abdomen, prostration of strength, feeble pulse, furred tongue, &c. From his statement it appeared that five or six weeks previously some boys had hung him up by a rope wound round his body, and from this time he was unable to retain anything on his stomach; he then had also purging and violent pain of the body, but continued to follow his usual occupation.

Much benefit was derived from the use of opiates, mild mercurials, and an open blister; he continued to improve until the afternoon of the 26th, when he was suddenly attacked with violent and fixed pain in the upper part of the hypogastric regions, quickly followed by stercoraceous vomiting;

cold clammy sweats; pulse scarcely perceptible; extremities cold. An enema was administered, but did not procure any evacuations; and as the case was deemed absolutely hopeless, no other remedy was applied but an opiate suppository, which relieved the pain. He gradually sank on Feb. 2d.

A post-mortem examination was made by Mr. Master, of this city, and myself.

On opening the peritoneum there was an escape of about 8 oz. of a matter like pus. The peritoneum was extensively inflamed over its whole surface, more especially in the iliac and hypogastric regions. The intestines were glued to each other; bands of recent lymph crossed in every direction on the mesentery, and from the mesentery to the bowels. There were extensive deposits of coagulable lymph. The stomach contained stercoraceous matter, was distended, but otherwise healthy. The duodenum and jejunum also contained stercoraceous matter, and were much distended. The jejunum presented traces of inflammation. The ilium was obstructed by a band of lymph encircling it, and producing mortification of the bowel to the extent of about three inches above the band; below it the intestine was contracted and slightly injected. The large intestines were healthy. There were no traces of tubercular disease.

Remarks.—This case was evidently in the first instance that of subacute inflammation of the peritoneum. The symptoms were favourable; indeed, the unaided efforts of nature were effecting a cure, and there was every probability that the patient would have recovered, had it not been for the unfortunate circumstance of a knuckle of intestine becoming strangulated by the band of lymph.

The symptoms of strangulation were so marked that had it not been for the exhaustion of the patient by the long-continued disease, I should have cut down to the seat of the obstruction, and made an effort to find, and, if possible, to remove it, (which might have been done in this case). I had an opportunity, when in Wales, of witnessing a somewhat similar case. It was in a gamekeeper, who had had subacute peritonitis several times, and had recovered from each attack. He was suddenly seized with a violent and fixed pain of a circumscribed portion of the belly, quickly followed by stercoraceous vomiting, and every effort was made to procure evacuations, but with no avail: he died in about eight days after the commencement of this attack.

On post-mortem examination there was discovered a portion of the ilium a few inches from the cæcum, strangulated by a band of ligamentous substance (evidently a product of inflammation) from the mesentery. The bowel was mortified and much distended.

In this case I had proposed to cut down as near to the seat of the pain as possible; had this been done early, a chance would have been given to the patient: and I strongly recommend to the attention of the profession, whether there may not be occasionally instances in which this bold procedure might not be undertaken with a prospect of success?—I am, sir,

Yours obediently,

Harry Dove.

Norwich, April 1846.

## Medical Intelligence.

### MEMORIAL OF THE GLOUCESTERSHIRE MEDICAL AND SURGICAL ASSOCIATION, LATELY PRESENTED TO THE QUEEN.

*To the Queen's Most Excellent Majesty.*

May it please your Majesty,

We the President and Council of "The Gloucestershire Medical and Surgical Association," humbly desire to approach your Majesty with a statement of certain grievances under which the majority of our body, being Members of the Royal College of Surgeons of England, are labouring by reason of recent changes in the constitution of the said College.

In the month of September, in the year of our Lord 1843, your Majesty was graciously pleased to grant to the body politic, then called the Royal College of Surgeons in London, a certain Charter, or Letter patent, embodying several important changes in the government, and in the powers and privileges of the said College.

Among the numerous objects embraced by the said Charter it was declared therein to be your Majesty's gracious intention to create a new class of members of the said College, to be called "Fellows," to which should be entrusted the power of electing the Council in future; and it was further declared, that the creation of such new class was intended to serve the purpose of more effectually promoting the study and practice of Surgery by affording a mark of distinction to such members of the College as might be considered worthy of the honour.

Accordingly, the Council, or governing body of the College, was empowered by the said Charter to nominate within three calendar months from the date therefrom, a number of the members, not less than 250, nor exceeding 300, to the Fellowship; and, also, at any time after the expiration of the said three calendar months, and before the expiration of one year from the said date, to appoint any other member or members of the College as they should think fit, to the

same dignity, none being afterwards eligible without undergoing a special examination.

It was further provided by the said Charter, that the Fellows alone should be thereafter eligible to the Council, to the exclusion of the other members of the College who previously enjoyed the privilege of such eligibility, subject to certain restrictions, and that the said Fellows should be eligible to the Council according to their seniority in the nomination list.

In the administration of the powers thus entrusted to them, your Memorialists humbly submit to the notice of your Majesty that the Council of the College adopted no intelligible principle of selection, and that they elevated to the new dignity a number of persons whose claim to such distinction is by no means apparent, entirely overlooking the relative age, education, or professional attainments of the parties; thus inflicting the grossest injustice upon the other members of the College, and thus defeating, as far as it was possible, your Majesty's laudable and gracious purpose of affording a stimulus to professional exertion, and by that means improving the practice of surgery in this country.

It would be impossible to exaggerate the feeling of dissatisfaction to which the conduct of the Council on this occasion has given rise among all classes of the medical profession; but there was reason to hope that during the discussion of a measure lately contemplated by your Majesty's Government, for the better regulation of the profession of medicine and surgery, the injustice perpetrated by the Council of the College of Surgeons would have received the attention of the legislature, and some means have been devised to remedy the evil.

The circumstance of your Majesty's Right Honourable Secretary of State for the Home Department having declared his intention to abandon the said measure has entirely disappointed these hopes, and your memorialists have therefore no alternative but most humbly to beseech your Majesty to grant to the College of Surgeons such a Supplemental Charter as shall as far as possible rectify the injustice alluded to, and with all submission to offer to your Majesty's notice a few suggestions relative to such Supplemental Charter, as would, in the opinion of your memorialists, tend greatly to remove the unpleasant feeling at present pervading the divided ranks of the said College, and impairing its utility.

1st. That the Council be, in the full meaning of the term, a representative body, and that to this end every member of the College, after ten years' possession of its diploma, and being of unblemished character, be allowed to vote in the election of the Council.

2d. That the fellowship for the future be conferred upon the members upon just and intelligible principles.

3d. That all members of the College who have been in possession of their diplomas ten years anterior to the charter of 1843, be admitted to the fellowship by the right of seniority.

That gentlemen in possession of the diploma of the College when the charter of 1843 was granted, of a less period than ten years, be made fellows in succession on their attaining the term of ten years' membership, but that in all cases it be necessary that the members produce testimonials of character from ten members, or fellows of the county or neighbourhood in which they reside, or have resided, and likewise that they neither vend medicines nor make the supply of such the means of professional remuneration.

4th. That members of the College admitted since the charter was granted, may obtain the fellowship by examination only, or this honour may be conferred at the discretion of the Council, as a reward for professional eminence.

5th. That the practice of the obstetric art shall not disqualify any fellow from being elected upon the Council.

6th. That all fellows of 40 years of age and upwards shall be, and so long as they continue fellows of the College, shall remain eligible to a seat at the Council Board.

Your memorialists humbly pray that your Majesty will be graciously pleased to take into your Royal consideration the case of the Members of the Royal College of Surgeons of England, and to grant to the said College a Supplemental Charter, embracing the topics which in the foregoing suggestions your memorialists beg leave most respectfully to submit to your Royal consideration and approval.

And your memorialists, as in duty bound, will ever pray, &c.

Dated this 4th day of March, 1846.

Signed on behalf of the Council and Members of the Gloucestershire Medical and Surgical Association,

Signed { P. T. Dick, M.D. President.
J. W. Wilton, Hon. Secretary.

## THE COMMISSIONERS OF LUNACY ON THE HANWELL LUNATIC ASYLUM.

Hanwell County Asylum, March 17, 1846.

We have spent this day and yesterday in officially visiting and inspecting this asylum. We have gone through the wards, yards, workshops, and outbuildings, and have seen all the patients now in the institution. We have also examined into the quality and the allowance of food supplied to the patients, and have made the other inquiries relative to the patients, and the manage-

ment of the asylum, and the general condition of the establishment, which are directed by the act of Parliament.

The fare of the patients appeared to us to be of excellent quality, and the allowance to be liberal. The clothing and bedding were clean, comfortable, and good. The galleries, day-rooms, dormitories, and single bedrooms, were clean and well ventilated, and, with some slight exceptions, free from any offensive smell.

The patients are at present 981 in number, of whom 413 are males, and 568 females. None of them at the time of our visit were under any mechanical coercion. Two of the women were under seclusion.

Generally speaking, they were in a quiet and comfortable state.

J. W. Mylne,
J. R. Hume,
B. W. Proctor,
J. C. Prichard,
Commissioners in Lunacy.

### THE DESCENDANTS OF LAVOISIER.

An affair of some interest lately came before the Civil Tribunal of Paris. It was relative to the property of the celebrated Lavoisier, one of the most distinguished men of science of the last century, and who became a victim to the revolutionary fury of 1794. From the statement made to the Tribunal by the advocate of Madame de Chazelles, the niece and heiress of Madame Lavoisier, it appears that her husband left scarcely any fortune, but that she was again married to another eminent scientific man, Count Rumford, and that she died in 1836, having survived her second husband, and left a large fortune to her niece. It was not until August, 1845, that any pretender came forward to dispute the succession of M. Lavoisier, but at that time some person had busied himself with finding out the relations, or those who thought they were so, of the deceased, but who were all too distant, even supposing their relationship to be real, to have any legal claim, and Madame de Chazelles was served with no less than forty-nine suits. The delusion of these claimants had gone to such a length that they imagined that the two streets called Les Rues de Rumford, and the Rue Lavoisier, which were built upon ground belonging to the Count Rumford, had really been paid for with the fortune left by Lavoisier. For many months past these forty-nine claimants have furnished occupation to the gentlemen of the law; but when the case was called on, not one of them appeared, either in person, or by his attorney, to support the claim, and the Court declared that none of them had proved a relationship to M. Lavoisier. In the course of the statement made by M. Fontaine, the advocate of Madame de Chazelles, he mentioned the mode in which M. Lavoisier had met with his death. He had, after his marriage, purchased for 700,000 francs an office as farmer-general, but continued his scientific pursuits. On the 16th April, 1794, he was arrested and thrown into prison, and soon afterwards was tried and condemned to die as a conspirator against the republic, for "having put into water, tobacco and other ingredients injurious to the health of the citizens who make use of that article." When he was summoned, in conformity with his atrocious and stupid sentence, to go to the place of execution, he was engaged in writing a paper on an important scientific discovery, and solicited a respite of three days to enable him to complete it; but the president of the Revolutionary Tribunal replied: "*La republique n'a pas besoin de savans.*" On returning to prison, after his fruitless application, he resumed his writing, and went tranquilly on until the moment when he was dragged forth to be executed, leaving the sentence on which his pen was occupied in an unfinished state.—*Law Times*, April 11.

### THE MALIGNANT CHOLERA.

This formidable disease is at present ravaging several provinces of Persia. It has been introduced by the caravans into Khorasan, and has spread south and west through the marshy countries of Massendheran. At Mesched, it has cut off one-third of the population: and at Teheran and Ispahan the inhabitants of entire quarters of these cities have perished.—*Gaz. Méd.* April 11.

### ST. BARTHOLOMEW'S AND ST. THOMAS'S HOSPITALS.

From the annual return, just made, it appears that the following number of patients were admitted into the two abovementioned hospitals during the past year:—

| | St. Bartholomew's. | St. Thomas's. |
|---|---|---|
| In patients . . | 5,419 | 3,552 |
| Out patients . . | 17,808 | 41,815 |
| Casualty patients. | 22,088 | |
| | 45,315 | 45,367 |
| Died . . . . . | 356 | Buried . 234 |
| Under cure, In . . | 484 | . . . 425 |
| Out . | 3,299 | . . . 707 |

### BETHLEHEM HOSPITAL.

Patients admitted in the year 1845:—

| | | |
|---|---|---|
| Curables . . . . | Males . . | 110 |
| | Females . . | 205 |
| Incurables . . . | Males . . | 5 |
| | Females . . | 2 |
| Criminals . . . | Males . . | 7 |
| | Females . . | 4 |
| Total . . . . . | | 333 |

Discharged cured, Males, 62; Females, 118.

FRENCH HOSPITALS IN ALGERIA.

THE mortality in the French hospitals of Algeria is on the increase. In the last quarter of 1845 there were more than a thousand deaths in the single province of Oran!—*Gaz. Méd.* Avril 11.

STATISTICS OF THE PARISIAN HOSPITALS FOR 1845.

THE number of patients under treatment in the hospitals of Paris, during the twelve months of 1845, varied from 11,261 the minimum (November) to 12,576 the maximum (March). In the Hospices, or Infirmaries, the number of patients varied from 11,417 (August) to 11,643 (December). The sick-patients, therefore, in these establishments, amounted in the year to about 23,000. The total number of admissions, in 1845, amounted to 88,814, and the number discharged was 79,402, The total number of deaths in these establishments amounted to 9,666 ; *i. e.* 6,875 in the hospitals, and 2,791 in the Infirmaries. The greatest mortality in the hospitals occurred in the January quarter (1,958), and the least in the July quarter (1,516).—*Gaz. Med. Chir.* Avril 11, 1846.

PRESERVATION OF LEECHES.

ACCORDING to M. Rodier, a pharmaceutist at Lenzburg, leeches may be easily preserved, by immersing them from ten to fifteen minutes in a mixture containing from three to five drops of solution of chlorine to forty-eight ounces of water.—*Gaz. Med. Chir.* Avril 11.

MEDICAL REFORM.

AT a meeting of the Committee of Associated Surgeons, lately held at the Freemasons' Tavern, Mr. Wakley announced his intention of shortly introducing into the House of Commons a Bill for the reform of the medical profession.

NEW TEST FOR PRUSSIC ACID.

IN the last number of the Dublin Hospital Gazette, Dr. Austin, Jun. has suggested the following process as a means of identifying cyanide of silver when this compound is in so small quantity as to render it difficult to procure from it cyanogen by heat. Half a grain of cyanide is to be fused in an iron or platinum capsule with a small quantity of oxide of iron and carbonate of potash. Dissolve the fused residue in half an ounce of distilled water, filter, and divide the filtered liquor into two portions. A drop or two of muriatic acid is to be added to each portion so as to render the liquid slightly acid, and then add to one a solution of sulphate of copper, and to the other a solution of a persalt of iron. In the former case the ferrocyanate of copper, and in the latter the ferrocyanate of the peroxide of iron (Prussian blue), are produced. These results furnish clear evidence of cyanogen in the precipitate, when the attempt to procure a rose red flame by burning the gas, may entirely fail.—*Dublin Hosp. Gaz.* April 1, 1846.

*** This is an ingenious and a very effectual method of identifying the cyanide of silver. We find that no metallic capsule is required : a small glass tube, one-sixth of an inch in the bore, answers effectually. Fine iron filings may be substituted for oxide of iron, and a small piece of potassium for carbonate of potash. The mixture is readily fused : when cold, the end of the glass tube, containing the fused matter, may be broken off, and the whole boiled in a small quantity of water. The solution may be easily proved to contain ferrocyanide of potassium by the addition of an extremely diluted solution of sulphate of copper (otherwise the red colour is concealed) or a solution of a persalt of iron. There is, however, one circumstance not noticed in Dr. Austin's paper. The previous addition of muriatic acid to the solution in order to neutralise the alkali, causes the production of some Prussian blue, owing to the acid forming an iron-salt with some surplus iron or oxide of iron used in the experiment. This alone is clear evidence of the presence of cyanogen. In relying upon this mode of testing, it must be remembered that any kind of nitrogenous (organic) matter mixed with iron and alkali will produce when heated ferrocyanide of potassium ; but it is only from a *metallic cyanide* that cyanogen can be procured in a state adapted for combustion. From our own experiments, we doubt whether this process of identification is more delicate than that commonly pursued, of applying heat to the cyanide of silver and burning the gas.

OBITUARY.

ON the 11th inst., at Brighton, in his 48th year, John Scott, Esq., formerly Surgeon to the London Hospital, and Lecturer on Surgery at that Institution.

On the 2nd inst., in Fitzwilliam-square, Dublin, Dr. George Greene, Queen's Professor of the Practice of Medicine.

## Selections from Journals.

### PHYSIOLOGY.

FOUR CHILDREN AT A BIRTH. ACEPHALOUS MONSTER. DISCUSSION UPON THE INFLUENCE OF MATERNAL IMPRESSIONS ON THE FŒTUS.

AT a recent meeting of the Surgical Society of Ireland, Dr. Beatty exhibited a monster which had been sent by Dr. Purefog, of Cloughjordan, the account given being as

follows :—It was one of four children born of the same mother at a single birth, three of whom were born alive and healthy. The first child was born at ten o'clock at night; in fourteen hours after, a second appeared; in an hour after this, the monster came forth; and in an hour after that, the fourth, a living child, was born. The only cause assigned for the occurrence was, that the mother had suffered considerable mental distress at about the seventh month of her pregnancy from having seen the mutilated corpse of a cousin who was murdered in the neighbourhood; to this circumstance the neighbours were disposed to attribute the occurrence in question. The case was remarkable, Dr. Beatty observed, first, from the plurality of children; 2dly, the birth of those alive, and in good condition; and 3dly, frnm the supposed cause of the occurrence he had just mentioned. No examination had as yet been made of the preparation, as he was anxious to present it in as perfect a form as possible. It appeared to be, he said, one of those acephalous monsters, with, in addition, considerable deformity of all the limbs. In the situation of the vertex, traces of the remains of a skull could be observed, and the specimen was found to differ from the ordinary acephalous monsters in there being no face. A slight projection occupied the natural situation of the nose, but no trace of any other feature existed. The upper limbs were particularly distorted, the arm being exceedingly short, and an absence apparently of the fore-arm, there being at the extremity of the arm a fin-like process representing a hand; the body, thorax, and pelvis appeared pretty natural, though very much misshapen; club-feet were attached to both lower extremities; there was no trace of an anus; the dorsal region presented nothing unusual, there being no appearance of *spina bifida*. The monster was of the male sex. A very common cause of monstrosity, continued the speaker, was a deficiency of the upper part of the calvarium, called cat-head, from the resemblance to that animal. This, he observed, would appear to be the case in the fœtus under examination, but presenting, in addition, an example of deficiency and misshapen parts. A question with many has been the cause of the deficiency of the calvarium in these cases, and, among a great many opinions offered, it appeared to him that the one now put forward by Rudolphi, of Berlin, was nearest to the truth. Rudolphi is of opinion that, in the ordinary acephalous fœtus, the deficiency of the brain is attributable to the fœtus in utero having got hydrocephalus, the fluid in which continues to increase until it bursts through the brain and its investing membranes, and finally through the integuments, the fœtus escaping with life, but born without the brain, and with complete absence of the upper part of the head. In the museum at Berlin, are numerous specimens prepared by Rudolphi, exhibiting the disease in all its stages: one with the head so enlarged by fluid as to be on the point of bursting; another with a projection through the integuments of a vesicular character, the covering being a very delicate membrane, through which the contained fluid is seen, and the brain, apparently totally destroyed. From these and other proofs, Dr. Beatty considered that we are justified in accepting Rudolphi's explanation as the one most likely to be correct. With respect to mental depressions, this is a disputed question; however, numerous instances on record go to show that some connection exists between impressions made on the mother and the fœtus in utero. He would mention two striking cases which had come under his own immediate knowledge, selected from his father's case-book: one was that of a lady, who, in the sixth month of her pregnancy, was accosted by a beggarman, who drew aside his coat and presented the short stump of an arm that had been removed half way between the shoulder and elbow. The lady was greatly shocked at the sight, but went on well up to the full period. Immediately on the birth of the child she asked with great anxiety whether there was anything the matter with it. Dr. B.'s father had heard nothing of the foregoing occurrence, and was of course surprised at the lady's asking the question; but on looking at the child, there was found only one arm complete, the other being only a stump, as if after amputation. Such was the story, upon which it was for the Society to set what value they pleased. The next case was one recorded several years after, in which the child was born with six fingers on each hand. The lady stated, that when about five months pregnant, a person sitting in the same room with her was suddenly seized with epilepsy, and the patient's hands moved so rapidly that the fingers appeared to this lady as if multiplied to an immense number. She could never afterwards banish the vision from her mind, and her child was born with the supernumerary fingers. Here, then, was another remarkable instance to be added to the general mass of facts in relation to this subject. Dr. Beatty did not, however, wish to become an advocate for the popular belief respecting mental impressions; he merely mentioned these two cases as historical facts. In the case to which he more particularly drew the attention of the Society, there existed, as he had before observed, a plurality of children. It was very rarely indeed that four children are produced at a single birth, so that the present case furnished an additional

evidence of the prolific character of the females of Ireland, although it was stated by Devereaux, that in America the number of twin births far exceeds those of any other country in the world; while it is maintained by Mr. Collins, of Dublin, that the occurrence of twin births is much more common in that city than in any other country. A note in Ramsbotham's work, however, he thought, offered rather a satisfactory explanation of these two conflicting opinions. It is perfectly well known, he says, that America is to a great extent peopled by the Irish, there being, of course, a mixture from other nations, but the tendency was clearly to a majority of the population being constituted by the Irish.

Dr. Darby had lately attended a twin case, the second case being a monster—this presented no signs of life; it appeared, at first view, to have but one head, but on closer inspection two distinct brains were apparent at the back of the head; in front there was a single forehead, but there were apparently two faces lying together, and united at the chin; the upper lip was perfect; the under one was divided. There were four eyes, and at the upper part of the back there was *spina bifida*. He was not aware that there had been any mental impression in this case. Mothers were every day to be met with who could hardly be persuaded that their children would not be born with some imperfection, from their having themselves received some fright; hence it would be a great matter, he thought, if men in practice would try to do away with these notions; his own impression was that they were mere superstitions. He had often dissected subjects in which a hand or foot had apparently been lost; but, on examination, the fœtal rudiments of these limbs were to be found enveloped in integuments at the end of the extremity.

Dr. Power observed, that he thought a great means of settling the question of mental impressions would be the ascertaining at what particular stage and development of the fœtus the impression was received; if, for example, in hare-lip, such impressions were made before the time at which union takes places between the two halves of the upper maxilla; or, in the case of the arm, whether the impression had been made previous to the laying down of its rudiments, the influence of these impressions might then be said to be so and so. With respect to the case of the lady six months pregnant, which had been alluded to by Dr. Beatty, it necessarily became a question whether the mental impression produced absorption of the hand, and a great part of the fore-arm, or whether an arrest of development at a very early period had not arisen from some other cause. These, he thought, were questions worthy of consideration. For himself he was inclined to the opinion that these cases were rather to be looked upon in the light of coincidences than as consequences of such accidents. It would be rather difficult, he thought, to conceive the possibility of absorption of the fore-arm in Dr. Beatty's case; therefore, the other explanation might be the more feasible one. —*Dub. Med. Press.*

[Remarks.—We fully accord with the above observations of Dr. Power. It is not unreasonable to believe that, during the very earliest periods of embryonic life, various causes, among which may be admitted strong mental emotions on the part of the mother, may either interfere with the centripetal development of particular parts of the fœtus, or check or derange the process of organization in any of its members: it is also fair to believe that, at a much more advanced period of intra-uterine life, various causes, such as external injury, malposition of the cord, and possibly sudden impressions upon the mother, may give rise to wasting or removal of the fœtal limbs, club-foot or other distortion, and several other kinds of lesion; but it is quite impossible to conceive that any process of nature whatever, could, at the fifth month of pregnancy, give rise to a monstrosity by *excess*, such as the formation of six fingers upon each hand, as occurred in Dr. Beatty's second case. We apprehend that, in all instances of that description, the whole mystery lies in a wish upon the part of the mother to convince herself and her attendants that there is something marvellous in that which is, in reality, merely unusual.—Ed. Gaz.]

## SPECIAL PATHOLOGY.

### SPONTANEOUS CURE OF FEMORAL ANEURISM—MORTIFICATION OF THE TOES.

BY J. KIRBY, ESQ.

Spontaneous cure of aneurism is an uncommon occurrence, especially in cases of external disease; however, as an instance of the kind has happened in the course of my practice, a brief account may not be uninteresting. The man was 50, spare make, of moderately active habits, with an unhealthy aspect, and rather intemperate. The two principal toes of the right foot were livid, cold, insensible, firm, and not tumid. He felt great pain in the instep and front of the leg, where some œdema existed. The femoral artery, above its passage through the tendon of the triceps, was aneurismal, the tumor being the size of a half-closed hand, elastic in its centre, diminishable by pressure. Slowly returning to its original size, and free from pain. The inferior arteries beat faintly. The disease had existed for some months, and until lately was not attended with more inconvenience than in obliging him to walk with lameness.

He affirms that it has become less in the last fortnight, and he says he would not have looked for advice only on account of the pains above mentioned, with the alarming discoloration and insensibility of his toes. A camphorated salve and warm poultice were applied to the foot, cold lotions to the aneurism, and an opiate was nightly adminlstered. He sat up daily, the limb being disposed according to his convenience, and no change was made in his usual diet, now more moderate than it had been habitually. In time, the toes became separated at the joints, as happens in frostnip. The tumour by degrees lost pulsation, and finally it shrunk up into a little lump which, for a long time, marked its situation. It deserves to be added that the veins of the leg were always free from congestion. Reflecting on this case, it is not irrelevant to inquire as to the probable issue of the usual operation. In my opinion, such a proceeding would have been unjustifiable, involving much suffering and incurring much risk, by interrupting nature in her own efforts, made in her own way, to save a limb, and to preserve a life. I fully recollect many nearly similar cases which were treated by ligature, and I am sure I express myself advisedly in affirming that when gangrene threatens, the time for operation is past, and its performance is calculated to defeat the end it has in view.—*Dublin Med. Press.*

## CHEMISTRY.

### ARTIFICIAL ULTRAMARINE—ITS COMPOSITION AND CHEMICAL PROPERTIES.

Ultramarine, whether native or artificial, always consists of silica, alumina, sulphur, and a little oxide of iron; but no two specimens contain these substances in the same proportions. Native ultramarine is procured from the lapis lazuli,—the artificial kind, according to Robiquet's process, is made by heating to low redness, a mixture of one part of porcelain clay, one and a half of sulphur, and one and a half parts of anhydrous carbonate of soda, in a covered crucible so long as vapours are given off. When opened, the crucible is usually filled with a spongy mass of a deep blue colour, containing more or less ultramarine, mixed with the excess of sulphur employed, and some unaltered clay and soda. The results are, however, by no means uniform. The price of the native ultramarine was formerly five guineas an ounce, the artificial is sold at a few shillings an ounce; and is equally durable.—*Athenæum.*

*** The colour of both is destroyed by nitric acid, or by a long-continued full red heat. Hence the difficulty in preparing the artificial variety. The destruction of the colour by nitric acid renders it easy to detect the admixture of cobalt, or Prussian blue, with ultramarine. The presence of indigo would be found by the use of sulphuric acid, which destroys the ultramarine and dissolves the indigo unchanged in colour. Strange as it may appear, even the artificial ultramarine is now largely adulterated. A specimen, lately examined by M. Chevallier, was found to contain forty per cent. of blue carbonate of copper. This is decidedly injurious, because the blue colour of copper under exposure to air and light, slowly becomes green.

The discovery of artificial ultramarine was accidentally made by Vauquelin, in 1814. It was found on pulling down a soda factory, where sulphate of soda had been fused with charcoal, that some parts of the walls had a rich blue colour. This intelligent chemist examined the substance, and ascertained that it was identical in composition with ultramarine. Prizes were offered in France for a chemical process for its preparation; and the result was that methods were discovered about the same time by M. Guimet, Paris, and M. Gmelin, of Tubingen. The process of Robiquet above given, is an improvement upon those first devised, and all that is now wanted is to discover the conditions for *constant* success. Here is a field for the "young chemistry" of England, if it can be induced to withdraw itself for a short time from the discovery of organic bases!

The essential constituent of ultramarine appears to be sulphuret of sodium; yet on what does the splendid colour depend? —the arrangement of matter! As in the case of the brilliant scarlet biniodide of mercury, which is formed of a white liquid metal and an iron grey crystalline solid, it is impossible to explain the cause of the colours by reference to the existence of any colouring principle. For a long time ultramarine was supposed, like the lapis lazuli, to owe its colour to the presence of iron. Clement and Desormes, however, prepared it without a trace of iron, and, what no one up to that time had suspected, they proved that it contained twenty-two per cent. of soda.

Ultramarine, whether native or artificial, is a most durable colour, and has great solidity; it undergoes no change from the lapse of time, probably from its being already in the state of sulphuret. It is equally blue by daylight and in the yellow light of a candle; while in artificial light cobalt is violet, and other blues appear more or less green, unless admixed with lake or crimson to counteract the effect of the yellow rays. Ultramarine does not appear to have been known to the ancients, although the Egyptians, unaided by chemical science, had discovered a most durable blue, now as bright on their mummy cases, as when first laid down three thousand years ago! Upon the composition of this and the other colours used by the ancients we shall probably make some remarks on a future occasion.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *April* 9th.—Osmond Mullett.—William Lord Grundy, Wigston Magna, Leicestershire.—Edward Bennion Batten, Oswestry, Salop.—Thomas James, Louth, Lincolnshire.—John Yeoman, Grosmont, Yorkshire.—Octavius Edward Peddle Chard, Longsutton, Somerset.—Bryan Lister.—John Barrett Collyns, Dulverton, Somerset.—William Haines, Avon Dassett, Warwickshire.—Henry James Wordsworth Welch, 1, Dalston Terrace, Kingsland.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, April* 4.

| Births. | | Deaths. | | *Aver. of* 5 *yrs.* | |
|---|---|---|---|---|---|
| Males.... | 748 | Males.... | 521 | Males.... | 493 |
| Females . | 700 | Females . | 507 | Females . | 475 |
| | 1448 | | 1028 | | 968 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 144 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 217 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .....(Pop. 374,759) | 188 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .....Pop. 393,247) | 209 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .....(Pop. 479,469) | 270 |
| Total ..... | 1028 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Winters; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 1028 | 1080 | 967 |
| SPECIFIED CAUSES ..... | 1026 | 1073 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 169 | 183 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 109 | 115 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 182 | 169 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 316 | 363 | 294 |
| 5. Heart and Blood-vessels ..... | 30 | 30 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 90 | 69 | 72 |
| 7. Diseases of the Kidneys, &c... | 30 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c..... | 13 | 12 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 14 | 7 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 4 | 2 | 2 |
| 11. Old Age..... | 42 | 90 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 44 | 27 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 17 | Convulsions .... | 51 |
| Measles ..... | 22 | | |
| Scarlatina ..... | 16 | Bronchitis ..... | 55 |
| Hooping-cough.. | 59 | Pneumonia..... | 90 |
| Typhus ..... | 28 | Phthisis .....124 | |
| | | Dis. of Lungs, &c. | 9 |
| Dropsy..... | 2 | Teething ..... | 11 |
| Sudden deaths .. | 19 | Dis. Stomach, &c. | 12 |
| | | Dis. of Liver, &c. | 11 |
| Hydrocephalus .. | 39 | | |
| Apoplexy..... | 37 | Childbirth ..... | 6 |
| Paralysis..... | 18 | Dis. of Uterus, &c. | 6 |

REMARKS.—The total number of deaths was 52 below the winter and 60 above the annual average. The deaths from Zymotic diseases, with the exception of hooping-cough, were also below the averages. In the North districts, the mortality was above the averages. In all the others, it was below the winter average.

## METEOROLOGICAL SUMMARY.

| | |
|---|---|
| Mean Height of Barometer ..... | 29·43 |
| „ „ Thermometer[a]..... | 46·8 |
| Self-registering do.[b] ..... | max. 81·5 min. 22·5 |
| „ in the Thames water. | — 51° — 45° |

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·84: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was nearly 3° above that of the mean temperature of the month (43·9°). The extreme hebdomadal range in the self-registering thermometer was 59°.

## NOTICES TO CORRESPONDENTS.

Mr. Copeman's paper on Uterine Hæmorrhage will be inserted.

Dr. Dick's communication and Mr. F. Adams's letter in our next.

Mr. Pearl.—Inquiry has been made respecting the work referred to by our correspondent, but without any satisfactory result. Much information respecting the Metropolitan Charities is contained in the Report of the Commissioners for Inquiring concerning Charities, 32, Part VI. 1840.

The letter of "A Barrister" reached us too late for insertion in the present number. It will appear next week.

A Querist.—Inquiry shall be made, and an answer given in the following number.

## Lectures.

### LECTURES ON CERTAIN METALS & METALLIC PROPERTIES,

*Delivered at the Royal Institution,*

By Prof. Faraday, D.C.L. F.R.S. &c.

### Lecture VIII.

Silver. *Lustre; cause of tarnish: its power of reflecting light and heat, compared with other metals; absorption of oxygen when melted; weak affinity for oxygen; action of chlorine; deposit of metallic silver on glass and other bodies; deposit by voltaic electricity. Conclusion of the course.*

With the metal Silver, and its general properties in respect to lustre and reflection, this, our short course of lectures, will be concluded. Silver occurs in a native state, or mineralised, and there is before you an interesting series of specimens of silver in its natural condition. The further case contains silver in a mineral state, as it is procured from the Real Del Monte mines, and here are other specimens from Mexico. They are exceedingly rich in metal. The case on the left contains the best and choicest collection of specimens, as you will see by looking at it. A third case contains a solid mass of silver: there are two other specimens of ore, containing two thirds silver, and therefore exceedingly rich.

Every one is acquainted with the appearance and general properties of this metal. The specimens before you, of bars, of granulated, and of caked silver, show what its characters are. We know it by that cream-white colour which it exhibits, and which comes out as a strong bright yellow from the ordinary effect of the atmosphere upon it, depending on its attraction for sulphur. There are numbers of coins here, which show the injury to the colour and the beauty of silver, by the insidious action of sulphur. It is curious to observe that the sulphur which is diffused in the atmosphere in combination with other bodies, acts far more powerfully upon silver than it does in a separate state. Within that bottle there is a stick of sulphur, and pure silver; and within this, pure silver and an alkaline sulphuret. They have been exposed to each other for an equal period of time, and you see how much more rapidly the one is injuring the colour and beauty of the metal than the other. Like iron, tin, lead, zinc, and other metals, silver undergoes a chemical change in the air, but it is not oxygen, but sulphur which it takes in a striking manner.

When pains are taken to develope the surface of silver in a proper degree, that is, to make it uniform, to obliterate all scratches, and to give it a fair and polished surface, it is one of those metals which produces the best *reflection* both of the rays of light and heat. The beauty of the metal depends upon the power which it has in the surface to render back to the eye, unchanged, the rays which impinge upon it from a given source. You have an illustration of this reflection before you, in a silver mirror (made by Mr. Drayton's process), which will fully bear out this statement. I have obtained a parabolic mirror used by the Trinity House for lighting the mariner in his course over the sea. It is made of copper well hammered and shaped, and silvered on the exterior. You will see the effect produced by ignited lime, the light from which will be reflected by this mirror; and behind me I have placed another mirror, to give a better demonstration of the power of reflection possessed by this metal. Although I have not time to adjust the mirrors exactly, I believe the ignited lime will be in a focus at the spot to which I now point. If I ignite the lime by throwing on it a jet of mixed oxygen and hydrogen, you may observe by the effects the beauty of the reflection from the polished surface. I will project rays of light from the centre, and you will see the manner in which the mirror will act by throwing its rays here, and the way in which the other mirror will do its work. If I substitute a red hot ball for the lime, and take a piece of paper or any other substance — for instance, a match — that will indicate heat, you will soon see that we have an abundance of heat reflected, as well as light. On the mirror behind me, there is now a little light from the sun, and you will observe how the light is brought, by a double reflection, down to this spot. The light is now thrown off by this surface, and it must have first come from the other and distant mirror. In this manner we can regulate the power of reflection, and transfer light from one point to another.

When I thus show the effect of the rays of light, you must understand that the same principle applies to rays of heat, or to any kind of ray that we can produce. There are means of guiding the invisible rays of heat, and whether they be rays of light or heat, the visible effects of both are derived by reflection from the surface.

Silver, as I just now observed, is used both for the reflection of light and heat; this mirror is employed entirely to throw forward rays of light; but there are other cases in which we require to throw forward rays

of heat. I am going to give you a rough experiment, where I expect to find heat, not light, in order that you may see that silver has the same power of reflection with both. Here I have another mirror very roughly focused, but of the same form; it will not collect so many rays; it takes only about one-sixteenth of those taken by the silver. Yet by holding against it a ball of iron red hot, I have, by the rays which pass from it, set fire to a piece of paper many feet distant. We can, in like manner, cause the rays of light to be sent forward.

In speaking of this property of reflection, I wish to bring before you another property which is immediately connected with it; viz. that of absorption. If I take a piece of silver leaf and a piece of black paper, and cover a part of the latter with the former, the reflection is so strong from the metallic surface that on placing it opposite a red hot ball of iron the paper will not be burnt in the spot where the silver leaf is placed. In this case a different effect has been apparently produced, in form, although the principle is the same. The rays from the ball are scorching the blackened paper wherever they impinge upon it; they have scorched it all round the piece of silver leaf; but where they fall on the silver itself they are sent back or reflected. Whenever the rays are sent back from a reflecting surface, as from silver, they produce no effect on the surface that reflects them, but other substances, which have not a reflecting power, become heated, scorched and burnt.

This fact displays the superiority of metals when applied as reflectors, as well as the value of other bodies not metallic, when we desire to produce a contrary effect, *i. e.* as absorbers of caloric.

Observe another experiment, to shew reflection, and the reverse. I take a tin plate so prepared on the surface that one half is blackened over while the other is polished. The red-hot ball is placed opposite to it, and the moment the heat from the ball is cast on this plate you will see very different effects between the metal which is polished and that which is rendered black by lamp-black and gum. The polished metal will reflect the rays, the black surface will absorb them. One part will become hot, and this will be manifested by melting the cerate by which a wooden ball is attached to the surface; the other part will keep cool in consequence of being a reflecting surface. The blackened half is already getting warm, and the balls attached to it by cerate are giving way, but on the polished side they will remain for a long time undisturbed. It would not become hot except from the heat being conveyed by conduction from the blackened portion. In half an hour's time, however, you would find the polished surface still cool; thus shewing the distinction between a reflecting and a non-reflecting, or an absorbing and a non-absorbing surface. On placing phosphorus in contact with the two different situations, in the one it remains cool, in the other it becomes hot, and speedily takes fire.

I will shew this same effect in a better way still, or at least one more striking. Here is a piece of gold paper, which, owing to its good reflecting powers, cannot be scorched by exposure to a hot ball; in holding it exposed to the red-hot iron, my hand has become scorched around it, but not the paper. On covering a part of this paper with any earthy substance, or painting it with lamp-black, an extraordinary difference will take place. On the part that has been covered I have not now got a reflecting surface; the lamp-black will quickly dry, and after that the paper will absorb heat and become scorched. The rays have laid hold of it, the gold beneath the lamp-black has been no protection, the rays have penetrated through the lamp-black, and burnt the paper.

This will suffice for an illustration of one of the general properties of silver, viz. the power which this and some other metals have, when exhibiting their own polished surfaces, of reflecting, beyond any other class of bodies, the rays of light and heat. Thus we are able to produce powerful mechanical effects depending on the agency of heat and light.

I must now take you, for a little while, to the *chemical properties* of silver, which are very curious. I have shewn you an experiment in which silver leaf, when put into a voltaic bath, burnt with a green light, and appeared, like many other metals, to be a combustible body. And further, if I take a piece of silver, and put it on a piece of charcoal, and proceed to make an experiment like those which you have seen with other metals—viz. to heat the silver on the charcoal—we shall have a certain effect produced, and it will seem as if the silver was burnt. Here we have in contact silver and oxygen: I shall quickly get the silver melted, and after a little while a peculiar effect will take place—a vapour will rise. There is the rising of a sort of mist, and silver passes off as vapour. It was considered, owing to the production of this vapour, that the silver was burning. If we proceed to take oxide of silver, and heat it, it loses oxygen and passes to a metallic state. Silver may seem to be a combustible body, because it gives a peculiar colour to the voltaic flame, and because it volatilizes freely; but we know that oxide of silver, like gold and platinum, is reduced to the metallic state by the action of heat.

Silver may be oxidized by various chemi-

cal processes. If I take silver (a shilling, for example) and pour on it nitric acid, which contains much oxygen, and which is an oxidiser of silver, and add a little water, and apply heat, I shall soon dissolve the shilling. Red fumes will be produced, which indicate that the acid is decomposed, and that action has taken place; the shilling will disappear, and I shall have a solution of nitrate of silver—*i. e.* silver combined with oxygen, and this oxide united to nitric acid. When a solution like this is evaporated, it gives me a crystal identical with the substance which we call lunar caustic, or nitrate of silver.

With regard to silver, and its affinity for oxygen: first, it is strange to find that this metal has power, in common with other metals, but in an extent far beyond them all, of combining with oxygen in the metallic state. If I take lead, copper, or zinc, and combine them with oxygen, they lose their metallic state, and an oxide is formed. Silver can extensively combine with oxygen, and keep its metallic state, *i. e.* it does not form an oxide, and the hotter the silver the more oxygen it takes up, still retaining its metallic state, although melted. Charcoal would extract the oxygen: but if we take a vessel made with bone ash, which contains no charcoal, put on it silver, and then expose the metal to a full red heat in the atmosphere for a certain time, it absorbs oxygen from it; and it will take eleven times its own bulk, to keep it in its substance, although red hot. We cannot understand this, but we can understand other effects connected with it; when the silver becomes solid, the oxygen issues out of every part, just as when water freezes the air passes out entirely, and congelation is the only process which will exclude air from water. Here is a button of silver, which has an irregular surface; the oxygen, when escaping from below, during solidification, having given to it that peculiar appearance. Again, you have here the effects of the same separating power. You see what has happened to this cake of silver; it is a good specimen of the form given to the upper crust of silver when the oxygen is given off from the melted metal; and when it does happen, it is a proof that the silver is pure—that it contains no copper, tin, or other substance, because these metals do not allow of this property of absorbing oxygen. These cakes of silver are therefore known to be perfectly pure, by the production of this very curious effect.

Let me come to the condition in which we are able to oxidise the silver, and form a definite compound of oxygen with the metal. Here there are a multitude of curious conditions, arising from the moderate degree of power with which the silver holds oxygen, and which surprise us the more deeply we look into the causes. The oxide of silver is of a beautiful black, especially if pure. If I take that solution and write on a piece of cloth, the mark at first is invisible; if I expose it to the light, it becomes visible—an indelible black. If I expose it still longer to the light, it becomes somewhat lighter, and forms metallic silver, for the nitric acid and oxygen entirely pass away by a free exposure to the air. I have a specimen, in which, instead of its being stained black, it is actually silvered, and has a metallic lustre. This is due to the fact that silver has but a weak affinity for oxygen; hence, when the oxygen is set free, it comes forth of this lustre.

Chlorine has a very strong attraction for silver. Into a bottle I put metallic leaf silver, and chlorine gas; the silver loses its metallic lustre, and becomes white and translucent; the chlorine has combined with it, and it has become chloride of silver. The same takes place with iodine; a little iodine converts the metal into iodide of silver. In these cases there is a stronger attraction of the metal for chlorine as compared with oxygen. Instead of being given off by heat, the chlorine is retained, except in minute portions, which escape at a high temperature, the compound assuming a fluid state. These are curious circumstances in the chemical history of silver, rather different to those met with among other metals. The attraction of silver for chlorine is shown when the latter has access at a common temperature. We take advantage of this strong affinity for the common purposes of testing water. Here we have water, muriatic acid containing chlorine, and a solution of silver, and the moment I put them together I get proof of there being an abundance of chlorine, by the salts of silver forming a dense white precipitate. Here is common water from a spring, and if I add nitrate of silver the chlorine overturns the affinity of the silver for oxygen and nitric acid. The effect produced is definite so far as the formation of this compound of silver and chlorine is concerned. There is a very good experiment which I now call to mind. I might take the cleanest hand in this room, and the cleanest pure distilled water, and yet, by the mere passage of pure water over the surface of the hand, I should be able to find in that hand, the presence of the chlorine that is evolved as an alkaline chloride by cutaneous transpiration. My hands are not at present very clean, but I will wash them, and then show the manner in which the test acts. Here is pure distilled water; no whiteness is produced in it on adding to it the solution of silver: showing that there is at present in it no chlorine as chloride or in any other form. On merely pouring the distilled

water over my hand, and collecting it in a vessel below, it becomes milky on adding to it the solution of silver; and here comes out a proof of the presence of chlorine in the perspiration. The salt which has been taken in the food has been coming to the surface of the body; and the hand of any one, however fair or clean in appearance, would yield the same indication of its presence. This is, therefore, a beautiful and delicate test, and by it you may detect chlorine in solution under all circumstances. Nothing shows the value of chemical tests, generally, more than this does, though I have not time to dwell further upon it.

The tendency for oxide of silver to lose its oxygen or become reduced, is so strong, that almost any organic substance, vegetable or otherwise, will decompose it even when combined with an acid. This has been taken advantage of, in a striking manner, philosophically. Whether it may be taken advantage of practically, we cannot say; but Mr. Drayton, instead of making mirrors in the usual way, by an amalgam of tin and silver behind the glass, covers them with the same metal (silver) that we have used in this experiment; so that the film you now see on the surface of the glass is true metallic silver in a state of perfect purity. I will show an experiment or two whereby his principle may be made plain, and you will observe how it succeeds. He takes nitrate of silver, dissolves it in water, then adds a little ammonia and alcohol, and afterwards a few drops of oil of cassia and oil of cloves. The essential oils become diffused throughout the mass of fluid, and cause a separation of the silver, in the state of metal, from the fluid combination. This is deposited on clean surfaces in a solid and distinct form. I have made some experiments of this kind in order that you may see how he applies this principle of reduction to plates of glass. The great point is to make the plates perfectly clean, or the silver will not adhere. I propose to silver these two plates, and they will give a beautiful illustration of the chemical effect by which Mr. Drayton carries out his plan.* From the moment of mixing the ingredients there is a tendency to decomposition; a separation of the silver takes place, and what is more striking it fixes itself entirely on the clean solid surfaces that are presented to it. You observe that I have a double glass; the glass is transparent, but by degrees you will find that instead of seeing the person opposite to you, you will see yourself, in consequence of a reflecting surface being formed; in fact, the plates of glass, instead of being transparent, will become opaque. I will add a little more oil to it, fill the tubes, and leave them to themselves, while we go on to other parts of our subject. A few drops of the solution will be quite sufficient to silver a large surface beautifully. If I cover these plates with the liquid, and leave them, I expect that we shall see, before we part, what the chemical effect is, for wherever the fluid goes it will deposit a portion of silver.

[The solution was poured betweeen two large sheets of plate glass kept upright in a frame and nearly in contact with each other. Up to this time individuals on opposite sides of the theatre could see each other through the two plates of glass; but soon after the solution was poured into the fissure between, a double silver mirror was formed, giving a perfect reflection of objects. In the same way the solution was poured into a glass tube placed upright, and three or four feet long. In a short time the metal was deposited, and the tube became to all appearance a rod of pure metallic silver].

From the difficulty with which silver holds oxygen, you might easily be prepared to expect that when other metals are mixed with it, having a strong affinity for oxygen, the metal will be easily separated; and this experiment proves it. If I take a plate of copper, and put it into the solution of silver, you observe instantly a great change in the appearance of the copper, and after a time the dark parts which appear on the surface of the copper are composed of pure metallic silver in a state of very fine powder. But there are certain solutions from which the copper will throw down the silver in a pure metallic state, with a polish, and then we get a layer of silver on copper which reflects exceedingly well. A substance called cyanide of potassium dissolves oxide or chloride of silver as well as oxide of gold. This solution readily gives up its silver to copper, the metal being precipitated evenly upon it. If I take this solution, with a portion of whiting added to it, and with tow wash over a piece of copper with it, I shall precipitate the metallic silver, and with a perfection utterly unlike what you see in other cases. The slightest washing on clean copper silvers it perfectly, because the separation takes place exactly on the same principle as in other cases, by an adhering film; but here there is no gas evolved to destroy contact, and the silver adheres perfectly and beautifully. In other cases silver is thrown down by copper in metallic crystals, but it is still the same chemical principle which is in operation, *i. e.* the separation of the

* The following is the composition of the silvering liquid. One ounce of nitrate of silver is to be dissolved in two ounces of water, and a strong solution of ammonia added, so that the precipitated oxide of silver is entirely redissolved. Decant or filter, add three ounces of alcohol holding dissolved ninety drops of oil of cassia. Immediately before employing the solution, add to each ounce twenty drops of oil of cloves diluted with sixty drops of alcohol. This last preparation should be kept in a separate bottle.

silver, which has a weak affinity for oxygen by a metal which has a stronger affinity for that body.

Upon this is founded the beautiful process of chemical plating, which has been brought before us so extensively by Mr. Drayton, Mr. Elkington, and others, which consists in giving a coat of silver to other bodies, in the way already shown. When the solution of silver has touched any part of the copper, and silver has been deposited, and the copper has acquired a coating of silver, this prevents the copper from doing anything more of the same kind. We cannot thicken the silver coat by washing it over again with the solution, because to lay more solution upon it would be to put it on silver, and silver will not separate silver. But then there comes to our aid the wonderful power of electricity, to which I called your attention last week—the current condition of affinities, whereby we can lay on any thickness of silver we please. If I put this piece of silver to a solution of silver, it has no power to take more of the metal out of the solution by chemical action, but if I make the silver part of the voltaic circuit, I can go on accumulating or taking silver from the solution on my left hand, and at the same time dissolve a portion of metallic silver from the positive plate. I can now go on thickening the silver to any extent I please; I might lay the whole of this solution on a small portion, if I went on with this process. In order to show you the bare application of this principle, I may take a medal, which has been formed by electricity; and if I put it in this solution, and connect it with the battery, you will see that I can quickly silver it.

I have hardly time to tell you of the beauty of this branch of art—the transfer of metals by the voltaic pile, on which I dwelt last week. We are able to transfer copper, silver, and gold, from one part to another, or cover other things in a most extraordinary way; and I have here a very curious display of the manner in which the metals, silver or copper, can be carried over, by the voltaic pile, and deposited in any thickness even on animal or vegetable substances, or on works of art. Here are splendid specimens of beetles and caterpillars, which, by this current affinity, have been covered with silver, and embalmed for ever in an indestructible coat of metal, investing equally the finest portions of the legs and antennæ. Here are other cases, containing specimens of vegetables, fruit, and birds, invested with silver, and illustrating, in various ways, the remarkable power of transferring metals from solutions to solids. Here is a plate, which I highly value, as having been given to me by Jacobi, of St. Petersburgh, who was one of the first to discover this application of the new art. Here is a case, in which you will see an engraved plate copied in relief by electricity, and then in intaglio; an impression on paper was taken from this second plate, and one from the original, and it was difficult to tell one from the other, so beautifully is the power of transfer carried on which I am here bringing before you in connexion with silver; but it may be done with almost every metal. Here are some specimens of alloys; metals transferred in a compound state by current electricity; *i. e.* brass medallions. I have, by the favour of Sir Edward Codrington, a specimen of an attempted application of the art, where it was found to be too large for practice. It was an endeavour to coat the bottoms of ships by electrotyping them with copper in one sheet, instead of applying the sheets of copper, as is now done, one after another. It is a boat, the bottom of which is covered with copper on its exterior, in the way of deposit, as I have described with reference to silver and copper. The metal has been thrown down by a zinc battery. There are several impediments to the carrying out of this object on a large scale, but there cannot be a doubt that it might be effected, although there is great doubt as to whether it could be done with economy and advantage compared with the present mode. We should not venture to judge of a thing at the outset by the present results. Is there anything around us, which belongs to art, that in its first effects showed what its ultimate application would be? There is nothing. All things are imperfect at first. The philosopher, the man of observation, looks for first principles, and then he endeavours to go on applying them in all directions, working out things which sometimes appear impossible. When Jacobi first found out this branch of art nobody could have believed that the specimens of animals and vegetables, minute insects and leaves, now before you, could be covered with silver and copper.

I do not know that I need feel disappointed at not perceiving upon this table a specimen of silver plate to show you. Every one knows what silver plate is; I wanted it only to call your attention to a property which silver has in common with the malleable metals, and which in the manufacture of plate is carried to a great extent; I mean the way in which articles are formed under the hammer. By malleability and ductility shape is given to silver. If you look at any ordinary work of art in silver you will find that it is hammered work. Even in cast works, the structure is often only partly formed of the cast-silver, and advantage is taken of the malleability of the metal to make it finer. Copper, however, will do as well for my purpose. I need hardly remind you of the enormous extent to which silver

is applied in the manufacture of plate, and which includes articles of utility and beauty. It is really a curious thing to go to a silversmith's shop, and see how he brings forth what he requires. These moulds, which are thus made out of a flat plate, are of equal thickness in every part. This is done by a curious process of hammering the metal, which tends to draw the substance apart in one direction, while it closes it up in another, so as to compensate in various ways for the alteration of parts of the plate.

I have now come to the close of this course of lectures, and although I might have detained you a long time upon every one of these subjects, and thus have lengthened the course, yet, if I had done so, I should not have kept my engagement with you. I have only to beg that you will allow me to return with this tongue, and these lips, and this heart, that gratitude which at all times, and in all ways, is due to you from me.

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POISONING BY STRYCHNIA.

An apothecary's assistant of drunken habits, when in a state of excitement from dancing and drinking, retired to his bed-room, and while in bed swallowed a quantity of strychnia. Dr. Theinhardt saw him in about a quarter of an hour afterwards. He was then lying calmly in bed, and admitted that he had swallowed at least half a drachm of strychnia dissolved in spirit. There was nothing unnatural in the respiration, state of pulse, or temperature of the skin, and no symptom indicative of the action of strychnia; circumstances which, in spite of the repeated declarations of the patient, led the physician to doubt whether he could really have taken so large a dose of strychnia. In the course of a short time, however, there was general spasm of the muscles, with hurried respiration, violent convulsions, and rigidity of the body. An emetic was then administered, but without effect. In a few minutes a violent convulsion, involving the whole body, supervened, and this was accompanied by opisthotonos. These fits succeeded each other frequently for about half an hour, when death took place. The tongue, gums, and lips, had a violet colour, as well as the fingers and toes. The fingers were convulsively folded on each other, while the toes were drawn backwards. The whole of the body was stiff, as hard as a board, and drawn somewhat backwards. As it has been already stated, during the short time the patient retained his consciousness, he would not admit that he suffered any pain or uneasiness; although, from his having been heard to groan, it is probable that his sufferings were great before he was seen by Dr. Theinhardt.—*Casper's Wochenschrift.* Feb. 28, 1846.

## Original Communications.

### ON PARACENTESIS THORACIS.

*With Cases,*

By H. M. Hughes, M.D.
Assistant Physician to Guy's Hospital.

[Concluded from page 677.]

Case IX. — *Pleuritic effusion—Paracentesis—Catarrh—Bronchitis, Phthisis, &c.—Paracentesis repeated after several weeks without spontaneous flow of liquid.—Result uncertain.*

C. L., aged 30, admitted into the hospital under the name of Dr. Babington, but placed under my care, September 4th, 1844. He was a tall, thin person, of spare habit, with a pale face, rather sallow complexion, and phthisical aspect. He had served in India as a soldier, but had been discharged upon his return home. While there he had two attacks of dysentery, one of which was so severe, and reduced him so much, as to render it necessary for him to be sent to the Himalayas for the reestablishment of his health. Three months before his application at the hospital he had been attacked with pain of the left side, and had been ever since more or less troubled with cough and shortness of breath. These were his chief complaints upon his admission, together with debility and progressive emaciation. His functions were naturally performed. Upon examination the right side appeared to be obviously larger than the left, was very imperfectly raised during inspiration, and was dull upon percussion in the lower regions, both before and behind. The respiratory murmur was absent, or distant inferiorly; was harsh, and mixed with bronchial rattles superiorly, and in the interscapular space the breathing was tubular. No obvious signs of disease were discovered upon examination of the left side, nor did the heart appear to be materially displaced. Ordered—

Empl. Cantharid. Magn. lateri dextro. Pil. Hydrarg. gr. iv.; Opii, gr. ¼. quaque nocte. Potassii Iodidi, gr. ij.; Liq. Potassæ, ℥xv. ex Inf. Gentianæ, ter in die.

The next day, after further con-

sideration of his case, the pill was ordered to be omitted, from his being regarded as an unfavourable subject for the action of mercury; and on the 11th, in consequence of his general debility, and the phthisical aspect of his general symptoms, he was ordered

Ferri Iodidi, gr. j.; Potassi Iodidi, gr. ij.; Tr. Calumbæ, ℥j. Inf. Quassiæ ter die.

On the 13th, no progress being made, and the right side of the chest being found upon admeasurement to attain to 16¾ inches, while the left side measured only 15¼ inches, and the other physical signs of effusion remaining as before, it was thought right, with a view of drawing off the fluid if it should be present, to introduce the explorator, to ascertain in the first instance if fluid did, or did not exist in the pleura in considerable quantity. This having been accordingly done by Mr. Cock, and the presence of an abundance of fluid having been certified thereby, the small trochar was introduced, and sixteen ounces of turbid yellow serum withdrawn in a full stream; a piece of lint and plaster, and a flannel bandage, were afterwards applied. The next day he said he felt greatly relieved by the removal of the fluid, but he appeared to have caught cold during the operation, as a few hours afterwards he was affected with catarrh, and symptoms of bronchitis, for which it was necessary to treat him antiphlogistically. After this he had an attack of pneumonia of the right lung, and was much troubled with diarrhœa. By these complaints he was so much reduced as to present all the general symptoms of phthisis, in the opinion of the physician, under whose care he soon after had the advantage of being placed. He was treated accordingly, and was much benefitted in his general health, and improved considerably in flesh, under the conjoined tonic and sedative remedies which, together with blisters and generous diet, were prescribed.

Feb. 19th, 1845.—He was much restored as to his general health, but the signs of effusion were in the main unchanged. The right side now measured 18 inches, and the left side 15 inches. The right side expanded half an inch, and the left an inch and a half, during a deep inspiration. Dulness upon percussion existed posteriorly up to the scapula, but anteriorly its natural limtts were not much extended; no tubular breathing could be heard anteriorly, but various moist rattles were audible throughout the greater part of the left side. The pulse amounted to 96, and the respirations to 36 in the minute. The presence of a large quantity of fluid having been previously ascertained by the use of the needle, the trochar was again introduced, but as the effusion, now purulent, did not flow spontaneously it was considered better not to remove it. He left the hospital April 4th, in tolerable health, but with a considerable quantity of fluid in the right pleura, and about two months afterwards presented himself on one occasion among the out-patients of the hospial, with the side much in the same state as when he left, but with general health again considerably deteriorated. He has not since been seen or heard of.

As regards the cure of the disease, the preceding must be assuredly considered an unsuccessful case of paracentesis thoracis, as it is at least highly probable that the poor man will ultimately die of his complaint, if indeed he be not already dead.* He was, however, upon his admission to the hospital in a very weak and exhausted condition, and then presented the aspect, and had many of the general symptoms, of phthisis; and though the physical signs of that complaint were certainly not constantly present, and his improvement in health, and his increase of flesh, were somewhat opposed to the probability of at least extensive tubercular disease; yet by the physician under whose care he was, and who had the best means of judging of the nature of his complaint, he was always considered to be affected with phthisis. It was from the high probability of its presence that the mercury originally prescribed was suspended. Supposing, then, that tubercles were present in the lung, and on the diseased pleura, he was an unfavourable subject for *any* plan of treatment.

It was indeed extremely unfortunate that he was attacked with catarrh or influenza after the first operation. That attack may be not unnaturally supposed to have been the direct re-

* I have since heard that he died with all the symptoms of phthisis fifteen months after the first operation.

sult of the operation itself. Such was not the opinion of the patient himself, who said he suffered nothing from, and was greatly relieved by, the tapping. But though not directly resulting from the operation, it is probable that it was indirectly connected with it, and that he caught cold from the exposure to which he was subjected during its performance. Such was the impression of the patient himself, and such was the impression of his medical attendant. The attack certainly had the general characters of common catarrh, followed by bronchitis, and subsequently by pneumonia and diarrhœa.

But from whatever cause arising there can be no doubt that the inflammatory attack which followed very materially decreased the probability of the ultimate success of the operation; as it prevented it being repeated at a time sufficiently early to afford the lung an opportunity of expanding. The operation was, in fact, not repeated till after the expiration of four months, during which time it appeared extremely probable, and was indeed almost certain, that the lung had become bound down by a thick albuminous layer deposited from the effusion. The result of the second tapping seemed to prove the correctness of this supposition. In the former operation the liquid flowed freely and spontaneously, as the expansibility and elasticity of the solid parts around it had not then been materially diminished. In the latter operation, though there was sufficient evidence of the presence of an abundance of fluid, it was obviously altered in character, had become purulent, escaped only *guttatim* through the canula, as no pressure was now exerted upon the effusion in consequence of the expansibility and elasticity of the surrounding tissues having been in a great measure destroyed, or if not destroyed, impeded and hampered, by the thick layer of albumen, which, under such circumstances, is always deposited upon the exposed surfaces.

The case may therefore be regarded as in some sense an important one, as it appears clearly to indicate the desirableness of an early performance of paracentesis, when the operation is adopted (conjointly with other means) with the view of curing, and not merely relieving the symptoms of, the complaint for which it is employed.

III.—*Cases in which only the exploratory puncture was made for the purpose of diagnosis.*

Notwithstanding every care in the investigation of the preceding history, and of the general symptoms of a malady, and notwithstanding every precaution in the use of the means of physical diagnosis, cases do occasionally occur which admit of a doubt. Nay, more than this, a few rare cases are occasionally met with, which, appear to admit of no doubt, yet in which the diagnosis is at length proved to be incorrect. It is on this account that we think it necessary to make use of the exploring needle *in every case* which is to be submitted to the operation.

When a surgeon sounds a patient who has all the symptoms of stone, he is not reported to have performed the operation of lithotomy unskilfully because he finds no stone in the bladder. The sounding for the stone, and the exploratory puncture preceding "paracentesis thoracis," hold precisely the same relation to the respective operations which succeed them. Both are for the purpose of certifying the presence of a particular form of disease, and of ascertaining the extent and qualities of that disease; both are useful and necessary for these purposes; but upon neither the one nor the other depends the success of the operation which is subsequently performed. As the process of sounding always precedes the operation for lithotomy, so should the process of exploration always precede that of "paracentesis thoracis." The preliminary process is at least as harmless in the latter case as in the former.

The cases which follow, though only three in number, present great variety. In one case it was believed that fluid almost certainly existed, and it was thought that it would be desirable to remove it if the diagnosis proved to be correct. Of this I believe there was no doubt whatever in the mind of any who saw and examined the patient. It proved to be an immense semi-solid tumor. In another case it was considered doubtful whether fluid was or was not present in the pleura. If found it was *not* intended to remove it, as the *operation* was not in that case thought necessary or desirable; but it was thought desirable, in reference to the

constitutional treatment to be afterwards adopted, to ascertain whether fluid did or did not exist. The needle was introduced and fluid discovered. In the other case fluid was supposed, and is still believed, to have been present; indeed, from what afterwards occurred, it is almost certain that it was present; but from some unexplained, and to myself inexplicable cause, it was not reached. In these very different and opposite circumstances the exploring needle was used without the slightest inconvenience being suffered by the respective patients, except that of the simple puncture.

CASE X.—*Symptoms of pleuritic effusion—Exploratory diagnostic puncture—no effect—death from malignant disease.*

C. W., aged 20, was admitted into the hospital, under my care, Sept. 12th, 1845. He was a sailor, and had received a blow in the back three years before from the tiller of the vessel in which he sailed. Thirteen weeks before his admission he was suddenly attacked with a severe pain in the left side, for which he was twice bled and otherwise treated with relief. His breathing from that time became increasingly distressed. Upon admission he presented all the ordinary symptoms and physical signs of very extensive effusion into the pleura; viz. dulness on percussion, immobility of the side, absence of respiration, of the vibratory thrill, and of the ordinary resonance of the voice; displacement of the heart to the right side of the sternum, and (what in my experience, is very far from a common sign of either common pleuritic effusion or empyema), separation of the ribs, with filling up of the intercostal spaces, and apparently obvious fluctuation. The case was regarded as one of pleuritic effusion, and it was proposed to draw off some of the fluid; but previously to doing this, the exploring needle, for the purpose of certifying the actual existence of fluid, was introduced posteriorly. No fluid followed the introduction. It was then used anteriorly in two places, at or near the situation in which fluctuation was supposed to have been clearly distinguished; still no fluid escaped. I acknowledge the surprise was great; the case had appeared perfect, but pieces of plaster were applied, and he was desired to keep his bed. When asked two hours after if he felt any inconvenience from what had been done, he said, "he was not a bit the worse." The next day he was allowed to get up, and expressed himself as feeling as well as usual. The disease was now regarded as a solid growth, and, though deficient in regard to some of the symptoms which have been supposed by some writers, and among others by myself, to characterise malignant disease of the lung, more especially the œdema of the side and the currant jelly-like expectoration, he was henceforward believed to labour under that disease. As his health was not good, and little or nothing, it was supposed, could be effected by medicine, and as his friends lived in the neighbourhood of the hospital, he was allowed, by his own desire, to return home, after remaining under our observation for a few days. He returned in about three weeks, and after considerable suffering from the mechanical effects of his disease, died considerably emaciated Nov. 22d, about ten weeks after the exploratory punctures had been made. Upon examination after death a huge malignant mass, weighing between nine and ten pounds, was found to occupy all the left and to encroach considerably upon the right side of the chest. There was a small portion of the pleura, about the size of the palm of the hand, which was not adherent, and which had evidently been the site of an old empyema.

The only observations I shall append to this case, of which a more detailed account may be given hereafter, are, that I feel quite positive that the patient suffered not in the slightest degree from the punctures that were made; that previously to their being made an assured conviction existed of the presence of fluid, and that without such demonstration nothing would have convinced myself, or, I believe, some others, that there was not an abundance of it in the pleura.

CASE XI.—*Old Pleuritic effusion—Exploratory puncture—escape of fluid—closure of the wound.*

W. M., aged 26, admitted into the hospital, Nov. 10th, 1845. He had been discharged from the army a year ago on account of "*incipient fissis.*" He had

previously suffered from pain in the left side; was pale, thin, and weak, but had not ever had hæmoptysis, or much cough. The left side upon admission was contracted, very slightly moved upon inspiration, and universally dull on percussion; the breathing was generally tubular, and the voice resonant throughout; he could lie in any position, and only suffered from dyspnœa upon exertion. The heart pulsated on the right of the sternum. As a means of diagnosis the needle was introduced; a little turbid serum trickled through the canula. A piece of lint and plaster was applied, and he was ordered blue pill, iodide of potassium, &c. &c. with a blister. He was as well as usual, and was walking about for eight days, when he was unfortunately seized with an affection prevailing in the hospital, which carried him off in forty-eight hours. No inspection was permitted.

In this case the exploratory puncture was purely diagnostic. It was not intended to draw off the fluid, as it was believed that after the expiration of a year the lung would be firmly adherent and incapable of expansion. He suffered not in the slightest degree from the operation: he was as well as previously for eight days. The subsequent attack, of which he died, was entirely unconnected with the chest.

CASE XII.—*Pleuritic effusion—exploratory puncture—no effect—recovery.*

C. S., aged 20, admitted into the hospital Oct. 9th, 1844. She had suffered from a severe attack of acute rheumatism accompanied with endocarditis, for which she was actively treated with mercury, local depletion, and blisters. While under the effects of the mineral she had the symptoms and physical signs of double pleurisy; the effusion of which was probably increased by a deformed chest, arising from a curved spine, and by the obstruction existing in the valves of the heart. Her dyspnœa became excessive. The mercury was increased, and fresh blisters were applied, but without any immediate relief. The exploring needle was therefore introduced with the view of ascertaining if the fluid could be drawn off. No liquid flowed through the canula: it was therefore withdrawn, and the slower mode of relief, by absorption, was alone trusted to. No ill effects resulted from the puncture; absorption slowly occurred; resonance supplied the place of dulness; natural respiration, with pleuritic rubbing, succeeded to tubular breathing; and after some months she went out tolerably well, and so continues to the present time.

That fluid existed in the pleura in this case, I had, and still have, not the slightest doubt. Her previous symptoms, the then existing distress and physical signs, their subsequent gradual disappearance, and simultaneously therewith the existence of pleuritic rubbing, all tended to assure us of the fact. Why the liquid did not flow through the canula, under such circumstances, I am unable to assert positively. It certainly was not because no pressure existed, as it was evidently considerable. I believe it arose from the diaphragm, misplaced by the misshapen skeleton obstructing the opening of the canula.

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IV.—*Cases in which pleuritic effusion was treated successfully without paracentesis.*

The two following cases are taken from very many others, and are introduced, not because they possess any remarkable features, but for the purpose of contrast. The effusion, in these cases, was recent; there was no very urgent distress; the patients appeared otherwise healthy, and capable of bearing the continued action of mercury without injury. Had it been otherwise I might have thought that the probabilities of a *perfect* recovery might have been greater if the trochar had been introduced and the fluid removed by operation.

CASE XIII.—*Acute pleuritic effusion speedily removed.* Reported by H. M. WEBB, M.D.

J. F., aged 17, a robust, healthy-looking girl, admitted under the care of Dr. Hughes, March 12, 1844. She had been a "servant of all work," but had recently resided with her sister, at Deptford. Rather more than three weeks ago, she was attacked, without obvious cause, and while in bed, with a severely acute pain under the left breast, which afterwards spread across the chest, caused great distress and dyspnœa, continued during the whole of the night and the next day, and then ceased altogether. As long as it lasted the pain was greatly diminished

by lying on the *affected side*. She recollected having previously had alternate chills and heats, but was quite positive that she had not been exposed to cold or wet, and was quite unable to account for her attack. The application of three leeches was the only remedial means that had been employed. Upon admission, she felt generally ill, and had lost her spirits and appetite; her face was rather flushed and her expression rather anxious. The respirations were 40 in the minute; the pulse 120, full, and rather tense; the skin hot, but perspiring; the urine natural, and the bowels regular.

*Physical signs.*—She lay equally well upon either side; the configuration of the chest appeared natural, but the elevation of the inferior ribs was defective. The whole of the left side was dull upon percussion; but the dulness gradually decreased from below upwards; tubular breathing was distinct throughout; the vocal resonance was generally increased, and at some parts possessed an œgophonic character. Tactile vibration was altogether absent. Neither the sound nor the impulse of the heart was perceptible on the left of the sternum, but the impulse was felt below the right mamma, between the fourth and fifth ribs, about two inches from the median line of the body. The right side was resonant, except along the margin of the sternum, where, as well as over the entire extent of that bone, there existed dulness on percussion. The respiration was puerile in the right side. There was no bulging of the intercostal spaces of the right side. Ordered—

Emplastr. Cantharid. lateri sinistro applicand.

Pil. Hydrargyri, gr. iv., Opii, gr. ¼; Pil. ter die sumend. c. haustu sequent.; Iodini, gr. ⅛; Potassii Iodidi, gr. iss., Aquæ, ℥ij.

March 15th.—Improved; anxiety less; sleeps much; tubular breathing appeared nearer the surface; she lay upon the sound side; the urine was much loaded with lithates.

Pergat.

16th.—Gums slightly affected by mercury; tongue loaded.

Rept. Pil. bis die, et Pergat.

18th.—Dulness of the left side less, but position of the heart unchanged.

Rept. Empl. Cantharid. et Pergat.

20th.—Resonance of the left side remarkably improved; heart now heard chiefly beneath the sternum, but not felt upon either the right or left side. The respiratory murmur was now heard in the left infra-clavicular region; gums very sore; bowels regular; slept well.

Capt. Pil. alternis noctib. Pergat.

March 22nd.—Dulness upon percussion, and tubular breathing, had disappeared from the whole of the anterior part of the left side; and loud pleuritic rubbing had supplied their place. The heart had resumed its natural position. Posteriorly the tubular breathing and dulness existed as before. She felt much better, and was in excellent spirits, though the mouth was very sore.

Omitt. Pil. Rept. Mist. c. Inf. Gentian. C. ℥iss. vice Aquæ.

25th.—The respiration was returning posteriorly, and resonance on percussion was now observed as low as the middle of the scapula; but below this the dulness and bronchophony continued as before. She had caught a slight cold, and complained of cynanche.

Omitt. Medicament. Capt. Pulv. Rhei. c. Hydrarg. Chlorid. gr. xv. Statim et Haust. effervescent. 6ta quaque hora.

28th.—Pleuritic rubbing was now loud over all the anterior part of the left side, except a small space at the lowest part. Posteriorly the dulness was less than at the last report, and slight pleuritic rubbing could now be traced there. Her general health was good, and her functions natural. Allowed—

A Mutton-chop. Capt. Decoct. Cinchon. ℥iss. Liq. Potass. ♏x. ter die.

31st.—Chest natural anteriorly; dulness not quite gone posteriorly, but the respiratory murmur, together with pleuritic rubbing, was audible over the greater part.

Pergat.

April 4th.—Pleuritic rubbing gone, excepting in the lateral region. She appeared and felt quite well, and was allowed to walk out.

15th.—Quite recovered; to leave the hospital to-morrow. The only vestiges of her disease are a trifling dulness, and a slight deficiency of the

respiratory murmur, at the lowest part of the left side.

CASE XIV.—*Pleuritic effusion suddenly removed.*

J—— W——, aged 24, presented himself among the out-patients, Sept. 5th, 1845, but appeared to be so ill that he was immediately taken into the hospital. He was an unmarried Irish labourer, of dark complexion, and with black straight hair, and worked by the water-side. Three weeks before, while quite well, he had been attacked, without any cause that he knew of, with pain of the right side: it was at first very sharp, but afterwards less severe. He had continued his work till a few days before he came to the hospital, when increasing difficulty of breathing compelled him to desist. He had taken no medicine, and he had applied to no one for advice. His face was pale, his lips purple, his countenance greatly depressed, and his expression anxious. The tongue was loaded and moist; the bowels open twice daily; the skin cool, the pulse frequent and small. On examination of the chest, the left side appeared to be natural, but the right side was almost motionless during inspiration. It was uniformly dull upon percussion, perfectly destitute of respiratory murmur, of vocal resonance, and of tactile vibration, excepting in the upper part of the infraclavicular and the scapular, the acromial and the interscapular regions, wherein tubular breathing and bronchophony were audible. The side was not enlarged, nor were the intercostal spaces dilated.

Ordered—Emplast. Cantharid. magn. lateri dextro. Pil. Antim. Opiat. c. Hydrarg. Chlorid. gr. j. 6ta quaque hor. et Julep. Ammon. Acetatis, c. singulis Pilulis. Beef-tea and Arrow-root for diet.

Sept. 8th.—The day after his admission he rallied considerably, and was greatly improved by the refreshment afforded by a clean bed and quiet lodging. He appeared extremely pleased with his position. There existed no febrile excitement, and he had no cough. The evidence of effusion was still very marked, but a very little resonance could be now elicited by percussion under the right clavicle. The antimony was omitted, and he was ordered—

Pulv. Rhei c. Hydrarg. Chlorid. gr. xv. statim et Pil. Hydrargyri, gr. iv. Opii, gr. ¼ ter die sumend. Rep. Emplast. Cantharid.

11th.—Gums sore from the mercury; anteriorly, respiration had gradually appeared from above downwards, together with resonance on percussion. There now existed a little pleuritic rubbing. Posteriorly, dulness on percussion was still present, but distant respiratory murmur could be heard over the greater portion of the back. The bowels were confined, his appetite was craving, and he requested to be allowed animal food.

Capt. Haust. Sennæ, c. st. et 6ta quaque hora ad alv. solutionem. Cont. Pil.

12th.—Dulness was quite gone anteriorly, and the respiration was every where heard, though inferiorly and laterally it was mixed with pleuritic rubbing. Posteriorly the dulness continued, and the respiration was less distant, but at the same time less distinct, from being mixed with loud pleuritic rubbing.

Rep. Pil. quaque nocte. Capt. Inf. Gentianæ, C. c. Liq. Potass. ℥x. ter die. Allowed a Mutton-chop.

18th.—He had been up and enjoyed his meat for several days. The right side now moved freely, and was resonant anteriorly, but a little dull posteriorly, where a loud pleuritic creaking was general, and was distinctly felt by the hand as well as heard. He said he was quite well, and was getting strong. He went out on the 25th, much pleased and very grateful, but still having a dull right side, and a loud pleuritic creak posteriorly.

The following Table may be perhaps considered to speak but little in favour of the operation of paracentesis. But it must be recollected that in many of the cases it was proposed, and performed, with the view of relieving existing symptoms, rather than that of ultimately curing the patient. In persons suffering from phthisis and malignant disease it could not be expected to do more than this: this, in most, not in all cases, it effected. But whether the operation was followed by the cure of the complaint, whether it merely afforded relief to existing symptoms, or afforded no relief, I am not aware that it was the direct cause of injury in a single instance.

## TABLE OF CASES OF PARACENTESIS THORACIS, (CONTINUED FROM THAT IN THE "GUY'S HOSPITAL REPORTS.")

| No. | Initials. | Age. | Disease. | Physician. | Operator. | Immediate effects. | Ultimate results. | Accompanying diseases. | Additional Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| 26 | C. L. | 30 | Pleuritic effusion | Dr. Hughes and Dr. Rees | Mr. Cock | 1st Relief, 2d None | Death — from phthisis after 15 months | Phthisis | Paracentesis twice performed. The first time it was followed by relief, on the second occasion the fluid did not escape freely. |
| 27 | E. W. | 16 | Empyema | Dr. Hughes | Mr. Cock | None | Cure — with slight contraction | Ulceration of pleura, & pur. expectoration | The fluid withdrawn was similar to that expectorated. The expectoration ceased; the cough disappeared, and the patient got fat and well, but with slight contraction of the side. |
| 28 | W. C. | 23 | Empyema | Dr. Hughes | Mr. Cock | None | Death | Phthisis and pneumothorax | The trochar was introduced, but the fluid, of which there was an abundance, was not withdrawn, as it did not flow spontaneously. |
| 29 | T. H. | 30 | Pleuritic effusion | Dr. Hughes | Mr. Cock | Great relief | Cure—without contraction | None | Discharged quite well in twelve days. |
| 30 | J. P. | 40 | Pleuritic effusion | Dr. Hughes | Mr. Cock | 1st Great relief, 2d none | Death | Malignant disease | Paracentesis twice performed. On the first occasion many ounces of sanguineous serum removed with vast relief. On the second, a few ounces only without any benefit. |
| 31 | W. W. | 42 | Pleuritic effusion | Dr. Bird | Mr. Cock | Great relief | Cure | None | Thirty-two ounces of green serum removed with very great benefit. Patient went out quite well. |
| 32 | —. P. | 26 | Pleuritic effusion | Dr. Addison | Mr. Cock | Great relief | Death from bronchitis after 3 months | None known | Paracentesis twice performed: 1st, three pints; 2d, a pint and half of clear serum removed with great benefit. The patient died after 3 months from bronchitis consequent on exposure. |
| 33 | P. C. | 45 | Doubtful | Dr. Bird | Mr. Hilton and Mr. Cock | Relief | Death | Doubtful | Paracentesis twice performed. On the first occasion, ℥xxvj.; on the second, ℥xl. of clear serum removed. Patient died of suffocative bronchitis. No inspection permitted. |
| 34 | W. G. | 26 | Pleuritic effusion | Dr. Hughes | Mr. Cock | Great relief | Death | Double tubercular pleuritis | Operation performed four times: 1st and 2d, clear but dark serum removed; two last, after pneumonia, fluid purulent. |
| 35 | J. P. | 26 | Pleuritic effusion | Dr. Hughes | Mr. Cock | Great relief | | Pneumothorax from injury | Operation twice performed with great relief, and benefit to the general health. When last seen he was in good health. |
| 36 | H. P. | 23 | Empyema | Dr. Bird | Mr. Hilton | Great relief | | Pneumothorax Phthisis? | Thirty ounces of pus removed with great benefit. Patient continues in tolerably good health. |
| 37 | J. F. | 37 | Empyema | Dr. Babington | Mr. Cock | Relief | Death | Phthisis? | Operation twice performed. Patient died with severe bronchitis of opposite side. No inspection permitted. |
| 38 | J. N. | 24 | Pleuritic effusion | Dr. Hughes | Mr. Cock | None, but great relief next day | Cure — posterior surface still dull. | None known | Operation twice performed. Forty ounces on the first, and thirty ounces of clear dark serum removed on the second occasion. |

## CASE OF POISONING BY OPIUM.

By Charles Mann, Esq.
Boxford, Suffolk.

*Communicated, with Remarks,*

By Alfred S. Taylor, F.R.S.
Lecturer on Medical Jurisprudence, &c. at Guy's Hospital.

On Sunday morning, March 22d, 1846, between five and six o'clock, I received a note from a patient, (living a few miles from me), stating that her daughter, (who was then about 27 years of age, and had always enjoyed a tolerably good share of health,) had been attacked with vomiting the night previously, and was at that time almost in a lifeless state. She and her son thought that the daughter suffered from hysterics, and begged my attendance immediately. I reached the house a little before seven: found my patient in bed, lying on her left side, perfectly unconscious; eyes and mouth closed; lips and countenance livid; respiration stopped—in fact in a state of asphyxia; the whole surface of the body, however, was quite warm; and the pulse, though rather quicker than usual, was in other respects natural. My first indication was, if possible, to rouse her; and for this purpose, after placing her on her back, I attempted to administer a small quantity of spirit and water: in this, after a short time, I succeeded; and by perseverance, in the course of an hour, or perhaps rather more, had the satisfaction to see my patient raise herself, and sit up in bed. At this time she was very drowsy, and it was with great difficulty we could keep her awake; and I fancied, from this circumstance more particularly, that she might have taken some narcotic. The question was put to her, but she denied having done so, and was evidently annoyed by its being repeated: her speech was much altered, and very much like that of a tipsy person. Thinking it desirable to empty the stomach, and having no other emetic at hand, I gave three or four cups of tea with mustard, which she drank very freely, and she also afterwards assisted me in tickling her throat with a feather, but without producing the desired effect. I then left her sitting up in bed and unsupported, conversing with her mother and sister, and went down stairs for the purpose of despatching a messenger for some sulphate of zinc. The man had not left the yard before I was again summoned to my patient, who had then fallen into her brother's arms in strong convulsions; her countenance was at this time death-like; mouth completely closed; eyes shut; pupils powerfully contracted, and insensible to light; breathing slightly stertorous; pulse full, but quick, and occasionally irregular. I have omitted to mention, that soon after seeing her I had applied cold lotions to the head, and mustard plasters to the feet and stomach. I now took about sixteen ounces of blood from the arm, and ordered the plasters, &c. to be renewed. The blood drawn was very dark.

Perceiving that there was no chance of giving the emetic, I sent off for a medical friend, requesting him to bring his stomach-pump; he was soon with me, the instrument used, and the stomach thoroughly emptied, after which we injected a small quantity of ammonia and water. The liquid brought off by the pump appeared little more than what I had seen taken; this was thrown away. I then ordered leeches to the head, a blister to the back of the neck, and directed those about her to give her some hot coffee at any time if they had the opportunity. This was about noon. I called again between four and five: found her symptoms becoming gradually worse; breathing more stertorous; pulse smaller and quicker; right pupil contracted, left widely dilated: there had been no return of consciousness. I merely administered a stimulating enema. She died the same evening about half-past seven, having lived rather more than twelve hours from the time of my seeing her, and about twenty-four from the first indication of illness.

The foregoing is what I witnessed myself, the remaining facts I learnt from those about her. She was a girl of naturally very high spirits; but since her father's death, which took place very suddenly, rather more than two months since, she has at times fretted a good deal, occasionally talked of death, and fancied she and her

friends would some day be obliged to go to the workhouse. It is said, however, that a day or two before her death she had been in better spirits. Up to Saturday evening, about eight o'clock, she appeared to be as well as usual: she was then told by her brother that she looked very pale, and was asked by him if she did not feel ill, to which she replied, that her stomach felt very bad, as if it had something alive in it, and she thought she should soon be sick. It appeared that she and her brother had each had a small quantity of rum given them in their tea by their mother; and to this she attributed all her bad feelings. Very soon after this she went to the fire-place for some coals to warm her mother's bed, and there became sick, after which she went up stairs, and her mother observing that she was very giddy and ill, took the warming-pan, and told her to make haste into bed, which she very soon did, but not till after she had been sick about the room. They had not been long in bed, before the mother heard her daughter making a strange moaning noise, and it was with great difficulty that she could wake her; she had no sooner done so, than she was asleep again. Between this and twelve o'clock she was again sick; that was the last time; and this was all that was preserved of what was thrown from the stomach. From this time until they sent for me, they had been trying various means to keep her awake, and during the night gave her half a pint of beer and nothing else.

It seems that laudanum is kept in the house, and that this girl had access to it whenever she pleased, and, moreover, that during her father's lifetime, upon some occasion he displeased her, she took a quantity of laudanum, as she herself told me—nearly a wine glassful—hoping to destroy herself; but that she was very soon afterwards sick, and that she felt little more inconvenience from it. Upon this last occasion it seems to have occurred to her mother and brother that she might have done so again; for soon after she was taken ill, they both particularly inquired of her if she had swallowed anything that was likely to make her so sick; but she denied having done so, and they of course hoped she had not. But her mother recollected very well having seen her at the medicine case a short time before tea on the Saturday afternoon, and she asked her at the time what she was after there; to which she replied that she was only setting a bottle up that her brother had left out in another room. As she was in the habit of going to the case, her mother thought nothing more of it at that time; but it appears now, that what she told her mother must have been a falsehood, as her brother had not used a bottle at all that day.

Now the question in my mind is, did she take the laudanum at that time, or had she put a certain quantity out of the bottle in another place, that she could easily get at afterwards? In the first place, if she had taken it when her mother saw her at the case, I think it would have acted sooner, being then not much after five o'clock. On the other hand, they say she never left the room for a minute after tea, and that for an hour or more after tea she worked at her needle, and was as cheerful as usual. No cup or any thing of the kind could be found as having contained laudanum. It is possible that she might have left the room without the family particularly observing it, or even recollecting it.

An inquest was held upon the body the following Tuesday, and the above facts having been stated in evidence, a verdict was returned, "that the deceased died from the effect of some narcotic poison, but how or by whom administered there was not sufficient evidence for the jury to form an opinion."

Remarks.—Some doubt having arisen subsequently to the inquest, whether the deceased had really taken opium or not, Mr. Mann applied to me, on the 25th of March, to examine a portion of the liquid which was ejected from the stomach of the deceased between 12 and 1 o'clock on the Sunday morning, as described in his report of the case. The contents of the phial which he brought for analysis amounted to three ounces and a half; they appeared to consist of a thick pasty mass, of a light brown colour, evidently mixed with mucus, but no blood; and they had a strong and well-marked smell of opium.

The reaction was slightly acid. The

mass was thrown on a wetted filter (to intercept any oily matter), and in the course of two hours about six drachms of a light brown clear liquid were obtained. This had the appearance and odour of an aqueous infusion of opium. To a small quantity of this liquid a few drops of a solution of persulphate of iron were added, when the well-marked red colour of meconate of iron was immediately brought out. This colour was not destroyed by a few drops of bichloride of mercury, which, however, produced a coagulum, probably from the admixture of a small quantity of animal matter. To another portion of the liquid, nitric acid was added, and the rich golden red colour indicative of morphia was produced. A mixture of iodic acid and starch was now added to a third portion of the liquid. This speedily became red, then purple, and, in a quarter of an hour, it had acquired a deep blue colour. It was therefore obvious that meconic acid and morphia were contained in the liquid; and the results of these experiments, together with the evidence from the odour, left no doubt that opium, in a moderately large proportion, was present in the contents of the stomach of the deceased. Twenty-five grains of the filtered liquid left a residue of four grains, making the solid contents about 16 per cent. This did not consist entirely of opium, but was probably partly formed of soluble alimentary matter mixed with the drug.

The drained residue presented all the characters of the pulp of bread. On adding iodine water to a portion of it, the mass instantly acquired a deep blue colour, thus exhibiting its farinaceous character.

It is worthy of remark, in this case, that opium was so abundantly discovered in the contents of the stomach, although the drug must have been in the organ at least *five*, and perhaps seven hours. In addition to this, the liquid brought for examination was that which was *last* ejected from the stomach.

There are no data to enable us to determine the quantity taken. Judging from the quantity present in the contents of the stomach, after the lapse of so many hours, and after free vomiting, I should be inclined to consider that the deceased had taken a full dose; and yet it is rather remarkable, considering the urgency of the symptoms, that she should have survived twenty-four hours.

Narcotism does not appear to have been perfectly developed until about nine or ten o'clock, judging from the mother's statement. There was evidently a remission of the symptoms at the time she was seen, about eight hours afterwards, by Mr. Mann; and it is also worthy of observation, that this remission, indicated by perfect consciousness, was followed by strong convulsions. Pallor of the countenance is commonly a well-marked symptom of poisoning by opium. This circumstance appears to have chiefly attracted the attention of her brother.

With respect to the time at which the deceased swallowed the poison, there is nothing to add to the remarks made by Mr. Mann. It is not at all probable that the appearance of the symptoms was protracted for three hours, as the statement of the mother and brother would imply. It is very likely that the deceased procured the drug about five o'clock, when she was seen by the mother at the medicine case, and that she took an opportunity of swallowing it perhaps about half an hour or an hour before her appearance attracted the attention of her relations.

The body was not inspected; but the fact of poisoning by opium was clearly established from the whole of the circumstances.

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## VALENTIN ON THE FUNCTIONS OF THE NERVES OF THE ORBIT.

*Translated from the Latin,*

By John F. France,

Assistant-Surgeon to the Eye Infirmary, Guy's Hospital.

[Continued from p. 649.]

The iris is not a single muscle, but an aggregation of muscular fasciculi; on the action of certain of which the pupil is diminished, and by the others is dilated; while, when both are paralyzed, the state of dilatation prevails, yet does not nearly reach its utmost point. We shall presently shew that the fasciculi which contract the pupil are flexors, and those that dilate it extensors; and that the former derive

most likely all their nervous fibres, but certainly all their motor ones, from the motor oculi, by means of the short root of the ciliary ganglion; and the latter theirs, from the spinal marrow through the long root.

The iris is moved, and the pupil undergoes alteration:—

1st. When the retina or optic nerve (maintaining its continuity with the brain) is irritated;—in which case, mechanical or chemical stimuli act in the same way as the stimulus of light does upon the retina.

2d. By strong irritation of the ophthalmic division of the trigeminal nerve, the pupil, as we shall see below, in the human subject, and have stated already with respect to rabbits, becomes greatly contracted*; but in cats and dogs, according to Magendie, dilates. This coarctation of the pupil in rabbits lasts until opacity of the cornea and effusion† into the anterior chamber impede the view of it.

3d. When the sentient fibres of the iris are slightly stimulated, they very frequently fail to excite reflex motion; which is produced, notwithstanding, upon stronger stimulation being employed. The circumstance observed by Zinn‡ and Langenbeck§, that the iris becomes contracted upon escape of the aqueous humour, appears unconnected with this point; for every time I have repeated the experiment on the dog, though the pupil has contracted, yet the animal has become so strongly affected by moderate day-light as to be obliged to search for a dark place, and the pupil has again dilated when this has been gained. Hence it would seem that the contraction was not so much from a direct action upon the nerves of the iris, as from the excessive effect of light upon the subjects of the operation, and consequent reflex action flowing from the retina upon the motor fibres of the iris. According to Haller*, Fontana†, and Magendie‡ mechanical irritaion of the iris has no effect upon the membrane: but the fact is, that in living animals the experiment is ambiguous, because morbid irritability of retina arises from the operation. The freshest§ bodies of animals are alone fit for this experiment; and in them strong irritation of the iris, whether mechanical, chemical, or galvanic, excites an alteration of pupil; not rapidly, indeed, as in muscles with compound fibres, but slowly, as happens in organic muscles. Hence, however, it is evident that the sentient fibres contained in the ciliary branches are capable of exciting motion of the iris, by reflex action from the nervous centre.

4th. It has been fully explained already, that diminution of the pupil is connected with the action of the inferior division of the motor oculi; and that upon the action of the superior division of the same nerve, the pupil either remains unchanged or rather becomes dilated.

5th. We have also shewn that the motor fibres, whether contained in the ciliary nerves or ganglion, or in the inferior division or trunk of the motor oculi, cause motion of the iris directly.

Finally, the pupil contracts when the cervical portions of the vagus and sympathetic are divided, in dogs or horses, and in a less degree in rabbits.

Of this important fact, Petit‖ was the original observer, who instituted the first experiments relating to the subject in the years 1712 and 1725. Having persuaded himself that the sympathetic nerve sends the animal spirits upwards to the eye, he divided the conjoined cervical portions of the vagus and sympathetic in a dog; and always found after this, the cornea of the same side lessened in brilliance, dull, and flattened; the fold of conjunctiva drawn out, an increased flow of tears, and coarctation of pupil. These symptoms had, in one case, entirely subsided in two months; in another, to a certain extent, in twelve

* Fario, in Behrend's Journal, vol. v. incorrectly affirms that it becomes dilated, in opposition to Magendie, who first observed this contraction.

† For these symptoms to ensue, division of the trunk of the trigeminal is not essential; but strong pressure, the actual continuity of the nerve not being destroyed, is sufficient. This experiment, which is easily performed with the neurotome, I have repeated several times, with the same result.

‡ Observ. circa diff. oc. hum. et brutorum, Comm. reg. Soc. Gotting.

§ According to Palmedo.

* Part. sens. et irrit.

† Natur d. thier. Kœrpers.

‡ Phys. vol. i.

§ Even these, however, are only available provided the pupil is not at all paralytic from death, and possesses a certain considerable degree of irritability.

‖ Hist. de l'Acad. Paris, 1727, 1729.

days. When the vagus and sympathetic were divided on both sides, the pupils were unequally dilated.

Molinelli*, who tied the sympathetic and vagus, confirms these statements; but Arnemann†, though, after division of the vagus in dogs, he observed increased lacrymation, and morbid sensibility and inflammation of the globe, with muddiness of the cornea and mucous discharge covering it, and extension of the fold of conjunctiva, yet expressly denies any alteration of pupil Dupuy‡, together with Dupuytren and Breschet, found the pupil contracted and the blood-vessels of the conjunctiva distended, after division of the superior cervical ganglion of the sympathetic. Mayer§, again, in so many words, asserts this influence of the cervical portions of the sympathetic and vagus upon the globe; but Brachet, who instituted a multitude of experiments upon the vagus and sympathetic, makes no separate mention of the state of the pupil. Lastly. Arnold‖, who observed diminution of pupil follow the operation of dividing the vagus and sympathetic nerves in dogs, and disappear again in four or five months, considers the latter phenomenon a certain indication of reunion of the nerves being accomplished: he, however, convinced himself that the symptoms were produced by the sympathetic, and not the vagus; because no change in the pupil occurs when the vagus is cut through in birds.

Now in order to explain this remarkable fact, which we shall presently see throws abundant light on the actions of the iris, I must give an account of my own experiments somewhat more fully.

1. In old or young dogs, when the common trunk of the cervical portions of the vagus and sympathetic is divided, the pupil always becomes contracted. On examining into this circumstance more closely, we find that this diminution of pupil is not observable directly and immediately after section of the nerve; but that the pupil is stationary for nearly a minute, when it contracts so quickly that the utmost remaining diminution is completed in another half minute.

2. This state of contraction continues some months, and, on its disappearance, examination of the body proves the vagus to have been regenerated. But if, as I have done in two young dogs, the extremity of both vagus and sympathetic, when divided, be placed in the wound with such obliquity and distortion that their regeneration is impossible, the contraction of the pupil continues permanent: thus Arnold's statement is correct, that this condition of pupil is a proof the vagus has not been reproduced. In a dog on which, more than nine months ago, I displaced the extremities of both vagi after dividing them, the same diminution of pupil is now present as existed directly after the operation.

3. The contracted pupil does not act at all, or much less than that of the unaffected eye, upon the influence of light stimulating the retina of either. Upon wounding the cornea of a dog, the vagus and sympathetic of which I had divided in the neck fourteen weeks previously (the pupil being still remarkably contracted), the aqueous humour escaped, and extreme photophobia ensued; yet no alteration of the pupil took place, though it occurred immediately when a similar wound was inflicted upon the other and unaffected eye. When regeneration is complete, and the pupil, though still contracted, has consequently become larger, evacuation of the aqueous humour through a wound of the cornea does not excite contraction as usual, but some enlargement of the pupil, which becomes elongated in the longitudinal direction. All these effects take place invariably, and with certainty, in dogs.

4. In rabbits, especially if black, or black and white (for the pupil of these has greater irritability than that of white rabbits), if the simple middle cervical portion of the vagus or sympathetic separately, or of both conjoined, be divided, no distinct alteration is commonly observed in the pupil*; but if the ganglia of these

* Comment. Bonon. vol. iii.; and Burdach, Geh. vol. iii.
† Versuche üb. die Regen. vol. i.
‡ Jour. de Méd. vol. xxxvii.—Lund, Vivis.
§ De arter. regen. 1823.—Graefe and Walth. Journ. vol. x.
‖ Bemerkungen.

* Arnold's opinion, that this influence over the pupil existed in the sympathetic alone, is thus disproved: we may add, that the vagus of birds cannot be divided so near the cranium as to allow a determinate judgment to be formed on this subject.

nerves be attacked, the result is different.

5. In this animal the ganglion of the vagus may, with care, be easily excised: with this end, a longitudinal incision is to be made from the angle of the lower jaw to the middle of the neck; the platysma myoides is then divided on the inner side of the external jugular vein, and the obtuse part of the knife by dissecting upwards with the carotid, vagus, and sympathetic, are brought into view. The vagus is then surrounded with a loose thread and raised, and the submaxillary gland being drawn aside and upwards with a hook, the former is gradually separated with a blunt instrument up to the jugular foramen of the skull. The portion which lies above the ganglion is first divided, then that by which the vagus emerges from it to descend into the neck, and thus the whole ganglion is removed.

This operation, which I have frequently repeated, succeeds so well, if performed in the manner described, that the rabbit scarcely loses a drop of blood except on the division of the skin. Upon its completion, the change in the condition of the pupil is remarkable: it is rather smaller, oblong, and very often, especially at its superior margin, somewhat angular*.

6. Extirpation of the superior cervical ganglion of the sympathetic is far more difficult; as, although the carotid of the same side be tied, which I have never found necessary in extirpating the ganglion of the vagus, so great hæmorrhage often ensues from the inferior angle of the jaw, that the operation cannot be continued. It is effected by cautiously detaching the cervical portion of the sympathetic in an upward direction, by means of a blunt probe; and the ganglion having been disconnected from the neighbouring structures, is carefully cut away with fine scissars. The pupil of the same side then becomes remarkably contracted, oblong longitudinally, and angular; the angle being situated at the inferior termination of the ellipse, the superior extremity of which is rounded. The same experiment succeeds more easily on the dead subject, if quite fresh and killed by bloodletting, not by a blow on the head. The head in this case is prepared as if for the purpose of dividing the glosso-pharyngeal nerve; that is to say, the cranium of the rabbit just killed*, is to be divided in half, from the occiput to the orifice of the nostrils, so that the upper part of the vertebral column remains on one side entire, and the lateral and posterior parietes of the pharynx are exposed freely to view. The pupil becomes somewhat contracted upon extirpation of the ganglion of the vagus, but more upon that of the sympathetic being removed: as, however, this effect quickly ceases, and the experiment, though on the living animal always successful, on the dead subject is often not so, it must be frequently repeated on the latter.

7. After the superior cervical ganglion of a rabbit has been laid bare, if a tight ligature be put round the soft nerves and internal carotid artery, the same alteration of pupil takes place as upon the superior cervical ganglion being cut through; namely, it becomes contracted, longitudinally elliptical, rounded at the superior margin, and sharply acuminate at the inferior. Not the slightest organic change in the globe ensues; at least, two months afterwards (for which period I have now had a rabbit under observation), the conjunctiva, cornea, and entire globe, remain sound, and differ, neither in brilliance nor any other respect, from the healthy state.

8. The diminished pupil of a rabbit on which the soft nerves have been tied three weeks, either remains unchanged or becomes slightly expanded on exposure to light; and contracts, instead of dilating, upon its withdrawal.

9. The pupil of the same rabbit becomes widely dilated upon evacuation of the aqueous humour through a section of the cornea, though, in the uninjured animal, the pupil contracts in a remarkable manner, under the same circumstances.

10. If a curved cataract needle is passed through the pupil, so as to make a linear wound on the posterior surface of the iris, parallel to its pupillary margin, the artificial pupil

* For these phenomena to ensue properly, however, it is essential that the entire ganglion be taken away; for no alteration of pupil is observed either in black or white rabbits, if the lower third, or half only, be removed.

* Sec. 87, text Lat.

which results is, in a perfectly sound iris, circular; but in that of a rabbit, the soft nerves of which have been tied, it presents a slender longitudinal fissure, in form of an arch, parallel to the pupillary border.

11. The variations of pupil now enumerated, are all less decided in white than in black rabbits; in which latter the pigment of the iris is more abundant *.

12. With these alterations of the pupil agree, more or less, the actions of the inferior division of the motor oculi; for the globe always becomes more or less rotated inwards, so as to appear deeper in the orbit, and (in rabbits particularly) somewhat flatter, than the other unaffected eye. The fold of conjunctiva becomes peculiarly extended in dogs, and an increased secretion of tears and mucus is observed, which is not equally, if at all, the case in rabbits†; but in both animals, when regeneration has taken place, all the symptoms vanish. The alteration of pupil is, during its existence, invariably confined to the side on which the lesion of the nerves has been produced.

I at first believed this alteration of pupil to be caused by reflex action; but as such an opinion was invalidated by the long duration of the pupillary contraction, and by its not being propagated from one globe to the other, I began a fresh series of experiments. After laying bare the ganglion of the vagus, with the utmost care and minuteness, I cut through those branches which enter the outer and posterior border of the ganglion from the superior cervical nerves; and upon this, the pupil (previously rather contracted) became elongated in the longitudinal direction, and angular at the upper part. The trunk of the vagus leaving the ganglion to descend the neck was then divided, but no alteration in the pupil resulted; nor was any observed when I cut through the same nerve where it enters the ganglion from above. From this, then, it is manifest, that the fibres entering the ganglion from the superior cervical nerves are really those which produce alteration in the pupil. The trunk of the sympathetic, nearly as far as the superior cervical ganglion, in like manner does not affect the pupil; yet the aperture undergoes a change immediately, if the posterior and external surface of the ganglion is cut; whence, it is obvious, the case is here the same as with the vagus. These phenomena are often observable on very recent subjects also; for if the spinal marrow of a rabbit is divided at the situation of the first vertebra, and its cervical portion destroyed, the pupil not uncommonly at the same instant becomes remarkably contracted. In dogs, however, there is some difference; the fibres capable of causing motion of the iris being in them contained within the cervical cord of the vagus and sympathetic, as well as in the ganglionic potion: it is fair to infer, therefore, that they enter the vagus and sympathetic lower down; and this conclusion is completely borne out by experiment. For oftentimes, if directly after the death of a dog, killed by hæmorrhage from the heart and aorta, the inferior cervical ganglion, or that part of the vagus and sympathetic immediately above it, is irritated, the pupil contracts, and again dilates upon removal of the irritation. The alteration of pupil is indeed greater, if the irritation be applied at a higher point; from which we may conclude that fresh motor fibres are there added.

Lastly, in horses as in rabbits, the motor fibres seem to proceed from the spinal marrow towards the head, at the higher point; since no diminution of pupil can be observed, when the lower cord of the vagus and sympathetic is divided, though Dupuy, Dupuytren, and Breschet, observed it after division of the superior cervical ganglion of the sympathetic.

[To be continued.]

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* As the size of pupil and the irritability of iris varies, in the lower animals, with the quantity of pigment, so is it also both in albinoes and in healthy men; for on comparing different persons together, we find the size of pupil various in relation to one and the same given object at the same distance; the irritability of the iris fluctuating as the pigment varies. Thus grey and greenish-blue irides have the least contractility; deep blue, and brown ones, the greatest; and hence bluish irides have the largest pupils, and brown, or dull green, the smallest.

† The sensibility of the iris seems to be somewhat increased; but I venture upon this statement with the greatest caution; for some dogs evidently disregard the contact of the needle with the iris, yet one, of which I had divided and displaced the vagus and sympathetic nerves eight months before, and the pupil of which had remained very contracted for the entire interval, cried out vehemently as often as I touched the iris.

# MEDICAL GAZETTE.

FRIDAY, APRIL 24, 1846.

The difference in the treatment of Legal and Medical quacks will be apparent from the following case recently tried at the Birmingham Borough Sessions.

A man named Latham was charged with having obtained money under false pretences. It appeared that the prisoner was consulted by a poor person respecting the best method of re-obtaining goods upon which a distress had been levied. He represented himself as a lawyer, took a fee, and of course failed in his engagement. There were several charges of a similar character against him. In the defence, it was urged that the prisoner had been clerk to an attorney. The jury returned a verdict of guilty, and the prisoner was sentenced to be transported for seven years* !

Had this been a medical case, *i. e.* an extortion of money by an unlicensed person on the pretence of his undertaking to cure a disease, which it was utterly out of his power to accomplish, the result would probably have been very different. Indeed, if such cases became the subjects of indictments, the Borough Courts and every other available Court in the Kingdom, would, we believe, become inconveniently crowded with complainants. Whence arises the difference? Is legal quackery so much more injurious to society than medical quackery?—Is it a more serious wrong to an individual that he should lose 1*l.* 17s. 6d. in goods and chattels by employing a sham lawyer, or that he should lose a wife or a child by employing a sham doctor, totally ignorant of the art of which he represents himself to be a practitioner? All that can be said is, lawyers are the parties who substantially legislate and adjudicate in both cases; and an *esprit de metier* probably forbids them to entertain the supposition, that medical quackery can constitute that grievous crime against society, which the punishment in this case, shows legal quackery to be. The Recorder in summing up observed, "that the charge against the prisoner was one of a most serious nature," &c. The editor of the Law Times in commenting upon it says, "The evidence in this case proves that the race of sham lawyers is a serious public evil. *They plunder the poor and ignorant.* The mischiefs to the profession are trifling, compared with the injury they inflict upon society; so that their suppression is really a public duty." Will not these remarks apply with tenfold force to sham doctors? Yet we are told that so far as physic is concerned, all that is necessary, is to supply the public with a list of qualified practitioners,—it being then left to individuals to procure medical assistance where they please! Now if this reasoning be sound as applied to physic, it must be equally applicable to law; and then comes the inquiry, Why was this man convicted and sentenced to be transported for seven years? The complainant might have easily examined a law-list; and if after that he was *foolish* enough to consult and pay an unlicensed man, he ought to suffer for his folly. *Qui vult decipi decipiatur.* The remedy provided for the medical profession should suit the legal profession. To quote the language of the Home Secretary on a memorable occasion, we may say of law as of physic,

> "Surely the pleasure is as great
> In being cheated as to cheat."

Each individual in society has, with

* Abridged from Law Times, April 18th.

respect to his own *legal* complaints, a perfect right to consult whom he pleases; for in what concerns himself alone, there is no justice in the interference of the state! However good the theory may be, the case which we have here quoted, shews that the practice, so far as sham lawyers are concerned, is widely different. Instead of trusting to the "empire of opinion" for putting down legal quacks, the law adopts a much more practical and, we believe, efficacious mode, by transporting them for seven years.

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Nothing has yet transpired respecting the provisions of the new Militia Bill about to be introduced into the House of Commons, by Government. The only information which we have is, that according to a circular recently issued from the War Office, the Militia regiments will most probably be embodied in the course of the following spring for training, and possibly for permanent service. It appears, therefore, certain, that there is a serious intention on the part of Government to carry out this system of forced conscription. We have already observed that there is no special exemption of members of the medical profession in the Militia acts: and as the measure in the event of its becoming law, without such an exemption being introduced into it, is likely to press very heavily on the profession, we propose in the following number to examine this question in all its bearings; and we hope to be able to shew that there are good reasons why every member actually engaged in practice, should be specially excepted from the provisions of these acts. Admitting that medical men may by purchase procure substitutes, the question is—Is it just or equitable to impose upon them a tax of this description?

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The most cursory observation of the proceedings which have of late years taken place in our criminal courts, shews how readily the plea of insanity is admitted as a defence to the charge of murder. The evidence of insanity, given on these occasions, rarely goes further than to establish acts of eccentricity against the accused; and sometimes even proof of this fails, and the case of the prisoner is made to rest either upon the enormity of his crime or the entire absence of motive. This leniency is commendable, so long as care is taken that the lives of the community are properly protected; but we question whether, in spite of the warnings conveyed by the well-known cases of M'Naughten, Ross Tuchet, and others, there is not at present too great a disposition to allow individuals, obviously labouring under delusion, to have the freedom and privileges of sane men. It is only when the homicidal climax is reached—*i. e.* when an innocent fellow-creature has been sent out of the world as a "conspirator," by the arm of the alleged maniac, that the case is considered to call for the interposition of the law; and then, amidst unavailing regret for the loss of life, the regular judicial forms are gone through, and the accused is consigned to an asylum.

These observations have been drawn from us by the recent occurrence of a case at one of the London police offices. The Earl of Arundel charged a female with annoying him by sending him threatening letters. She was a perfect stranger to the complainant, and this was the second occasion on which he had been obliged to apply to a police office for protection. A respectable witness who had seen much of the prisoner, deposed that in his opinion she was insane. He had been sent by the Commissioners of Police to investigate the particulars of a complaint

which she had previously made against the Earl. This was, that he and another person were in the habit of placing themselves in a small wood at the bottom of her garden, and continually watching her. She had three pits dug in the garden, two for watchmen and one for herself, on purpose to watch the proceedings of the Earl and his companion. They placed themselves in these pits, each of the watchmen holding a ball of cord in his hand! This was substantially admitted by the defendant; but she declared it was the object of the Earl, and those whom he had bribed, to make her out insane, and lock her up in a lunatic asylum. Other acts indicative of delusion were deposed to; and it was proved that the whole of the statements made by the female, as to the persecution, &c., were nothing more than the freaks of a disordered mind. The magistrate, it is stated in the report, was perplexed as to the manner in which he should dispose of the case; but he finally discharged the prisoner.

Here we have evidence of an ideal conspiracy, and a series of acts indicative of a most absurd, but it cannot be said of a harmless delusion: for the pertinacity with which the defendant has continued to annoy the complainant, would render an act of violence on her part by no means an improbable occurrence. It appears to us that this was decidedly a case in which the state of the prisoner's mind should have been properly examined by medical men:—on the principle that it is far better for the individual and for "society," that the possible occurrence of a homicidal climax should be prevented by timely precaution. The matter is, however, left by the magistrate as an open question, and the woman is now at liberty, if she pleases, to shoot any of these "conspirators," with the certainty, even if there were no other facts than those which perplexed the magistrate, that her counsel will be able to make out a better case of insanity in her defence, than that which led to the acquittal of M'Naughten. This cannot be regarded as an instance of ordinary eccentricity; those who are acquainted with mental disorders, more especially with the various forms of homicidal monomania, will, we are sure, agree with us, in thinking that the magistrate was wrong in discharging this person before she had undergone a medical examination.

## Reviews.

*Scrofula: its Nature, its Causes, its Prevalence, and the Principles of its Treatment.* By Benjamin Phillips, F.R.S. Astistant-Surgeon to the Westminster Hospital.

Scrofula is an opprobrium medicinæ of the first class. The extent of its diffusion; the variety and often intensity of its forms of sufferings; the obscurity of its causation; and its intractable behaviour under treatment, seem very well to entitle it to that epithet and character. Its history, theoretic and practical, has been under discussion from early ages, and continues still to the scientific practitioner a subject of the deepest interest and importance; and for centuries to come, in all probability, professional zeal and science will from time to time be directed to its elucidation. Within our memory several valuable treatises have been occupied with it: *ex. gr.* those of MM. Henning, Carmichael, Goodlad, Lloyd, in this country; nor has it been neglected by continental writers, as the instructive writings of Bordeu, Pujol, Baumes, Lugol, Baudelocque, Lepelletier, Bredow, Hufeland, Kortum, Scharlan, &c. amply testify. Nor are these more than some of the more successful and distinguished contributors to the literature of scrofula. Yet though its explorers have been many, the country is still, we fear, little known: every portion of it almost is more or less debateable land. Take,

for instance, its causation, for its constituent conditions are still unsettled and *ad huc sub judice bis est.* Formerly, acidity or acridity, and consequent viscidity of the humors—and atony of the vessels—and a virus of some kind, transmitted, or received from without, or inwardly generated, were the favourite culprits and proximate causes, according to the doctrinal bias of each writer; *i. e.* as he inclined to the old chemical, or humoral, or vitalist, or solidist, etiologies. Of late, views as to its nature, differing from those, perhaps more in form than substance, have prevailed. The eager pursuit after an occult efficient cause, whether chemical, mechanical, vital, &c. has, indeed, been nearly, if not quite, given over now. But, under other names, and regarded from different doctrinal points of view, we have analogous physical conditions and logical entities adopted at present as causes of scrofula; viz. constitutional debility; chemically defective blood and chyle; hereditary predisposition, &c. &c.; which, though not identical with, are apparently very similar to and legitimate descendants of the vascular atony, humoral lentor, morbific virus, &c. of the older writers. They are, in fact, we believe, modern editions of old crude anticipations, deduced originally from genuine but partial and imperfect observation, and now recast and corrected so as to be in harmony with the improved theories, chemical and physiological, of the present day. Be this as it may, there can be no doubt that there was ample room for a fresh review of scrofula, and that a work on the subject, from a writer of learning, industry, and talent, must be acceptable; and such, after a careful perusal, the work before us appears to be. Very uncommon pains seem to have been taken in collecting information from men as well as books. The appendix, we perceive, includes communications and returns from various parts of Asia, Africa, and America, as well as of most European countries.

In the first chapter of his work Mr. Phillips considers the nomenclature of the disease, and the proximate causes to which it has been referred by authors.

In the second chapter we have the author's own view as to the nature of scrofula. He holds that "scrofula is a disease of the constitution, and is most clearly manifested by swelling of the subcutaneous lymphatic glands." He reminds us that glandular swelling may arise from any of various causes, and he points out as the diagnostic of true scrofulous disease of the lymphatic glands, the deposition of the well-known scrofulous matter in the substance of the glands affected: for glandular enlargements, not manifesting in due time the characteristic deposit, he considers to be simply results of a low inflammatory action occurring in debilitated constitutions. With respect to other external marks of the scrofulous diathesis or constitution, he seems to think that little confidence can be placed in the colour, &c. of the hair, skin, eyes, &c., and that the general form and make are as variable as the complexion. He has found "the utmost possible variety in the external characters of those who present undoubted scrofulous taint."

In passages too long for extraction by us, he contrasts his observations as to the physiognomy of scrofula, with the current impressions and traditions of the profession, and gives us to understand that he conceives the exceptions to the general rules of authors, so numerous as to deprive them for the most part, if not altogether, of practical value. For example, he states (page 30), that the paleness and coolness of the surface, so generally observed in scrofulous subjects, does not extend to the face in more than four-fifths of the cases occurring in practice; while as to colour generally, he considers dark tints more usual than light ones in the skin, &c. Of nearly 9,000 children, for example, whom he has himself examined, a little over 32 per cent. and no more, had light hair and eyes. A tumid abdomen, with morbidly irritable mucous membranes, generally, whether intestinal, pulmonary, or urinary; and a cool pale surface of the body, with defective muscular and intellectual developments, are the most constant signs, he conceives, of the strumous habit. But, in the absence of glandular tumors, there are, the author repeats, no features so constant as to warrant our affirming the presence of the disease in the constitution. With respect to the dyspeptic condition, so well developed by the late Dr. Todd, the author denies that it is essential, and declares that it

is "but a link—not the first, not a necessary one—in the chain of circumstances leading to the complete development of the disease."

Towards the end of Chapter II. he develops more fully his views of the intimate causes of the disease, and refers it to a "general want of tone and energy" in the motor tissues and organs, and a deficiency "of red particles" and predominance of water in the blood. The chyle, also, he states, is "too poor in its proper elements," and the materials for repairing the organs, derivable from the blood, are consequently "of bad quality." These views of the author (which are further developed in the following chapter) relating to the important question of the genesis of the disease, appear to us to agree with and confirm the conclusions of the most recent and matured ætiology.

The third chapter treats of the scrofulous deposit, and concludes, on the authority very much of those excellent observers, Mr. Gulliver and Mr. Dalrymple, that its physical and chemical characters present considerable uniformity, yielding scarcely any constant differential features even under minute analysis, whether by the microscope or by chemical reagents.

In the fourth Chapter, "On the state of organs about to receive scrofulous deposits," he attributes the greater frequency of the deposit in the cervical lymphatic glands to their being so much more exposed to alternations of temperature, &c.

Chapter V., "On scrofulous matter," contains, as already stated, a repetition, in some measure, of his view of the nature of scrofula, and in it he mentions that—

"In 67 instances, in which he has examined the blood, he almost always observed a considerable deviation from the condition of healthy blood, but the changes have not presented sufficient uniformity to induce the author to regard any particular condition as specially characteristic of scrofula; the changes were such as seem to belong to a tolerably extensive group of affections, all connected with disordered nutrition and debility." "In almost every case, the coagulum was relatively small, the serous menstruum large, and the clot very soft and almost diffluent; in a few instances only was it tolerably firm. In almost all cases the proportion of globules was considerably under the healthy standard. In most instances there is a considerable increase in the proportion of albumen; in almost every case the proportion of salts was found to exceed the healthy standard; and in some instances it was nearly doubled."

The sixth Chapter is a reply to the question, "Are pulmonary tubercle or phthisis, and scrofula, identical in their nature?" In successive sections he considers the differences between tubercular matter and scrofulous glandular deposit, as recognizable by the naked eye, &c., as observed with the microscope, and as manifested by chemical tests. Under those heads nothing has caught our eye that could conveniently be extracted.

In another section he discusses the difference between the parts which receive the foreign matter, and contends that glandular deposit is always preceded by glandular inflammation; whereas pulmonary deposit has no such forerunner as inflammation of the part, except incidentally. With respect to capability of being artificially injected, Mr. Phillips considers the scrofulous gland and tuberculated lobule to be similarly circumstanced. The foreign matter, he considers, incapable of true injection in either case. "I have been unable," he says, "to inject tubercular matter in the lungs or scrofulous matter in a gland." He mentions that injection has sometimes partially succeeded in appearance, but adds:—"In every case in which I have witnessed this apparent vascularity I have entirely satisfied myself that the vessels were those of the organ and not of the morbid product."

He then proceeds to consider the circumstances under which the deposits above treated of are respectively effected in the lungs and lymphatics; and this branch of the inquiry he investigates statistically almost wholly. He considers separately the distribution of phthisis and of scrofula according to age and according to sex; and the following table contains the substance of the former argument. It is deduced from the Registrar-General's Report for 1840-1 (see Table, next page).

From the Irish Returns a somewhat similar result is obtained, shewing that there, as in England, scrofula, tested by the official mortuary Reports, is a disease of childhood principally; and phthisis a disease, on the contrary, of comparatively mature years.

| | Deaths. | | | | | |
|---|---|---|---|---|---|---|
| | Consumption. | | | Scrofula. | | |
| | Total. | Under 15. | Per cent. | Total. | Under 15. | Per cent. |
| Metropolis . . | 21,667 | 4653 | =21 | 347 | 208 | =60 |
| 24 Provincial Districts | 8,550 | 2543 | =29·00 | 106 | 61 | =63 |
| Birmingham . .<br>Liverpool . .<br>Manchester . . | 3,188 | 1239 | =39 | 23 | 16 | =69 |

Then with respect to sex Mr. Phillips argues thus:—"If there be, as is maintained, identity between scrofula and phthisis, they should surely fall with equal severity on both sexes." He then shows, from the Reports of the Registrar-General, for 1839, 40, 41, and 42, an excess of female mortality of 15 per cent. from phthisis; but, on the contrary, from scrofula a preponderance of male mortality equal to 24 per cent. In Ireland a similar apparent antagonism was observed in the same four years, giving the female a mortality by phthisis in excess about 13 per cent., and the male a mortality by scrofula in excess some 35 per cent.

In the next section of the sixth Chapter he shows that the mortality in both sexes in different towns and districts differs extremely, and in a way not in harmony with the doctrine of a common origin and nature of phthisis and scrofula. He shows that in town districts, in a period of 4 years, the mortality by phthisis was 19 per cent. in excess, as compared with that of country districts; whereas, the deaths by scrofula were in excess in the country districts, and by not less than 100 per cent.

In this section he anticipates and answers an objection. The objection is, that mortuary registers are no adequate tests of the relative prevalence of phthisis and scrofula, on account of the vastly inferior mortality arising from the latter. To this he answers thus:—

"Admitting that scrofulous persons die usually by other diseases than scrofula, and assuming that the majority of scrofulous subjects, as has been affirmed, die of consumption, we might then expect to find the marks of glandular disease in a large proportion of the bodies of phthisical victims. Now, from a register kept at the Maryle-bone Infirmary, including 332 entries of consumptive subjects, it appears that glandular disease had existed to all appearance in only 14 cases; 7 had scars; and 7 others had enlarged glands, in 2 of which only was scrofulous deposit detected."

Mr. Phillips refers to similar results of researches by Professor Louis, Dr. Lombard, and M. Cless Stutgard. After some illustrations of his views from comparative pathology, he thus sums up the argument:—

"I apprehend it has now been shown by abundant evidence that (with exception of the deposit itself, which, whether found in the lungs or in a cervical gland, whether examined by the naked eye, by the microscope, or by chemical analysis, is very similar) the circumstances attendant upon the development of scrofula and phthisis are widely different. In scrofula the gland undergoes considerable change, inflammatory in its nature, before the matter is deposited in it; in the lung we commonly find the tissues around a simple tubercular deposit unchanged by inflammation. We find, further, that in districts where the causes of phthisis act with most intensity, those of scrofula fall lightest; that the age when the ravages of scrofula are most keenly felt is precisely that when the visitation of phthisis is least to be apprehended; that the sex which suffers most severely from one of those diseases is least affected by the other; and beyond these is the fact, that among the numerous victims of phthisis, at least 18 out of every 20 exhibit no marks of having suffered from scrofula. It seems to me, therefore, that these facts constitute so clearly marked a difference between the two affections, that it will be most convenient, most conducive to scientific correctness, to consider them as affections possessing a certain general similarity of character, but no identity. It may be that they belong to the same family, like pleurisy and pneumonia; but every one deems it desirable to make as clear a demarcation as possible between those diseases. I say the same of tubercular disease generally and scrofula,

between which the points of resemblance are strong, in so far as concerns the deposit; but in all else they are weak."

Chapter VII. treats of the prevalence of scrofula in Great Britain. In investigating that subject he appears to have examined by himself or others, a large number of children in schools, in union-houses, in factories, and elsewhere; and he has availed himself of a large number of hospital and dispensary returns. He also procured from the army medical board, from Dr. Baly, and others, returns respecting recruits and prisoners; to which sources of information are to be added the mortuary Reports of the Registrar-General. The proportion of children of the working classes and poor that presented visibly enlarged glands, scars from glandular suppuration, diseased joints, or bones, &c. of scrofulous character, amounted to some 3½ per cent. on a total of between 130 and 140 thousand children. The Returns of dispensaries, hospitals, and infirmaries, embracing Great Britain and Ireland, including a total of cases treated, and amounting to 255,297, gives a total from scrofula of 3187, or $\frac{1}{80}$ of the whole only. Amongst recruits his returns give on a total of 95,586 recruits examined, 800, or 1 in 119 rejected for marks of scrofula. Amongst convicts it appears that similar results were obtained, and on the whole it seems that scars were apparent in 1½ per cent.; visibly enlarged glands in 3 per cent.; and enlarged glands, not visible readily, but distinguishable by the touch, in 24½ per cent. of the various groups of individuals examined, collectively considered. From the mortuary Returns of Somerset House no greater mortality is deducible from scrofula than some 8 per 100,000, or 1200 in a population of some 16 millions. He concludes with respect to the prevalence of scrofula amongst us that the facts he adduces "cannot fail to impress upon the mind the conviction that unless scrofula degenerate into some other disease, its actual prevalence, as well as its influence in the destruction of human life in Great Britain, is not very formidable."

He then adverts to the unequal distribution of scrofula amongst the different districts, &c. of our island and in other countries. It appears that in some cases the proportion of scrofulous persons exceeded the average enormously, being as much as 72 per cent., while in others the proportion was one half less than that average, which has already been stated to be, according to Mr. Phillips's researches, about 24½ per cent. It appears, also, that far from being favoured haunts of scrofula, as generally supposed, the British Islands suffer less from that scourge than other countries. For example—

"In comparing Paris with London, the deaths from scrofula, when compared with the population, are six times as many in the former as in the latter capital; and that from the whole of France the marks of scrofula presented by recruits are twice as many as amongst our own recruiting population."

His eighth Chapter, in answer to the question, "Is scrofula on the increase in our land?" he concludes with the statement, that—

"Tried by such tests as I have been able to apply, and which are the best we possess, the conclusion seems a fair one, that scrofula is much less prevalent in the present day than it was in the 17th and 18th centuries."

The 9th Chapter, at which we now arrive, is the longest and most elaborate, and probably the most instructive and valuable in the work. It would be impossible, we imagine, to point out a second volume on scrofula, containing within the compass of 140 8vo. pages, so much condensed information, and so many statements challenging attention. We therefore very much regret that our limited space, and the unusually large proportion of the chapter that consists wholly or mainly of facts and figures, preclude us from attempting an analysis that would render justice to the author. We must content ourselves with enumerating the heads under which he discusses the subjects, and giving a few extracts from his "summary of causes." The causes he discusses are the following—hereditary transmission; predisposition; influence of diseases other than scrofula in parents; parental syphilitic taint; conception during menstruation; influence of age in parents; intermarriage; scrofula in a nurse; contagion; inoculation with pus; food; atmospheric influences; climate; light; humidity; temperature; occupation in factories; prisons.

The following are extracts from his summary of causes—

"The influence exercised by a scrofulous parent, whether father or mother, in transmitting to the child a predisposition to scrofula, is real but of very limited extent; and it is not evident that the influence of a scrofulous parent is more efficient to produce scrofula in the child than the influence of equal constitutional debility in the parent originating in other causes than scrofula." "The influence of immaturity or of great age in a parent upon a child, may be stated in the same terms, and with the same limitations." "The child of such a parent is more susceptible to the agencies of disease than the child of healthy and vigorous parents, but he has not from that cause alone a tendency to any particular disease, whether scrofula or of some other kind." "There is no proof that any form of contagion or inoculation exercises any influence in the production of scrofula." "Neither the general mortality nor the deaths from scrofulous diseases bear any definite relation to the closeness with which the population is crowded together, whether the comparison is made between one town or district and another, or between portions of the same town or district." "Particular occupations and social conditions exercise a greater influence on health and the duration of life than impure air, or insufficient ventilation, but they do not operate in the production of scrofula in the sense of a specific agent or direct cause." "In the last result, then, it is to diseased nutrition, however brought about, that we refer the production of scrofula."

"The cause of diseased nutrition at that period of life when the seeds of scrofula are sown, is, in the vast majority of cases, insufficient food, or improper feeding; and even if the less direct agencies which we have been considering had occasioned scrofula much more frequently than we believe they do, the distinction is of great practical importance; viz. that they do not act in virtue of a specific influence suited by itself to produce scrofula, but as general morbific agencies which impair digestion, and thus indirectly contribute to the production of the disease."

The author's tenth, and virtually last chapter, is devoted to treatment, preventive and curative. Under the head of prophylaxis he makes many interesting observations, which we regret our want of space to notice particularly. He insists on the use of animal food daily for all, even young children. Respecting the exclusive use of vegetable food for the latter, he remarks:—

"To me it appears inconsistent to maintain the necessity for animalized food during the first year of life, when the calls on the child's system are certainly not greater than in the subsequent three or four years, and to contend that in the succeeding period (after the first year) rice, or potatoes, or bread, uncombined with animal substances, are his proper food."

He insists strongly on the use of open air exercise, and remarks that—

"In our own country the tendency of our social condition is to lessen the opportunity for exercise in the open air, and to collect children together for the purpose of education, or training, or occupation, and the results of these practices upon the physical character of the child are, I think, unfavourable." "In the course of my investigations I have had abundant opportunity of satisfying myself that the dull routine exercise which is provided for children in certain establishments does expose them to the risk of scrofula. It is not convenient to point out the institutions to which I refer, but it may be sufficient in this place to state that even where the children are fairly fed and the rooms they inhabit are spacious, but their exercise not unconstrained, or suited to the character of children, there much scrofula is found."

The author then gives an historical account of the treatment of scrofula by the Royal touch; the fullest that we have met with, and very interesting. Unfortunately, we can do no more than refer thus shortly to it. Mr. Phillips states, that not only Roman Emperors, and Sovereigns and subjects of modern France and England, touched for scrofula, but also certain ancient Norse kings, and other Scandinavian princes, of which we were not aware.

He then discusses the merits of the principal ordinary remedies; viz. mercury, iodine, muriates of barytes and lime, burnt sponge, alkalies, cod-liver oil, sea-side influences, season, &c. &c. With respect to mercury, he prefers the bichloride to every other form of mercurial.

"In very minute doses, $\frac{1}{20}$ of a grain twice a day with syrup of sarsaparilla; it does not yield in efficacy to iodine, barytes, or other medicines which enjoy at present a more extensive reputation."

Iodine he seems to think has been much overrated, yet he admits its occasional utility. He seems to think more highy of the iodide of iron than of any other form of iodine; that he employs in the form of syrup. The apparently very superior success of some, *eg. gr.* Lugol, with iodine, he

seems to think fallacious, and justly attributable to time, improved diet and regimen, &c. To us this conclusion is rendered very probable, by the fact, that Lugol's method implies usually a treatment of many successive months, and often of years, the remedies being resumed, when practicable, at the close of the cold season, if we rightly remember, and suspended on its return. Barytes, he seems to think little, if at all, less efficient as a remedy than iodine, though less convenient in practice, for reasons he specifies (p. 281). Of caustic potash he thinks favourably. He seems to have often found it useful; and not unfrequently ineffectual, it should be added. Of cod-liver oil, he says:—

"There is scarcely any form of scrofula which I have not seen to improve under it; viz. enlarged glands, sinuses, ulcers, caries, &c.; but generally one of two things happened; viz. either the stomach or the patience failed before the remedy had been carried far enough to produce any considerable amelioration."

With respect to sea air, &c. he says:—

"I do not regard the sea as exercising a special curative influence over scrofula; I do not assert that a change to the sea-coast is without beneficial influence, but I conceive that such change exercises no greater influence over the disease than would be afforded by a change to any inland situation where the air is pure and dry."

Under the head of "mineral waters," he denies that those means have, more than sea-air, sea-water, sea-bathing, any direct influence over scrofula, and thinks that scrofulous persons may commonly, with equal success, be treated by other means.

His remarks on "season" are very short, but contain, we think, very valuable suggestions:—

"I am convinced," he says, "that beyond every other agent, except food, it is the one whose influence is greatest in the excitement or cure of scrofula." "When," he asks, "do we send patients to the sea-side? Precisely at that period when they would improve anywhere. When do we find any remedies best succeed? Precisely when the season is favourable. When do we find all medicinal agents powerless? Precisely when we get no help from the season."

The eleventh chapter, which closes the text of the volume, commences thus:—

"This work has been written at intervals spared from professional duty, and amidst those distractions of thought which frequent interruptions occasion, and has been composed at distant intervals, during which my own opinions have undergone modification; so that it is probable there will be found some positions wanting in precise accuracy, or stated without the qualifications by which they ought to be accompanied."

With such an ample share to plead of the substantive merits and enduring services of original research, we scarcely think Mr. Phillips need offer any explanation respecting incidental defects or transgressions of the technical rules of the gentle craft of authorship. With such a large and various mass of materials to analyse, mould, and fashion, we wonder not at occasional oversights in a composition undertaken and carried out under such circumstances as the author alludes to. We are not without some little experience of arithmetical and statistical investigation, and we know well that with masses of figures to reduce and arrange, there is little leisure or inclination for the exercise of overmuch literary art or care in the verbal expression of the arguments or deductions founded upon them. On the whole, our impression of this work is, that it is a very important accession to our professional literature, and does the greatest credit to the industry, research, and talent of the author. Its utility is, we think, likely to extend far beyond the limits of professional society. Every intelligent person, now-a-day, has made some acquaintance, however slight, with statistics; and some of those parts of the history of scrofula which it is most important that the public should understand—we refer especially to the causes of the disease—have fortunately been treated at considerable length and with much ability in the second chapter according to the statistical method.

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*Memoranda on Difficult Subjects in Anatomy, Surgery, and Physiology.* By Mark Noble Bower, Surgeon. 2d Edition. 12mo. pp. 259. London: Renshaw. 1846.

This little work is intended as a pocket companion for students who have gone through the usual course of study, and who may require the aid of "Memoranda" to recal many facts

which are made the subject of examination at the Royal College of Surgeons. One who has been an assiduous student will hardly need a book of this description: it is only likely to be useful as presenting *multum in parvo* to him whose memory happens to be unfortunately defective, and who has at the same time neglected to provide himself with notes drawn up from actual observation. The author does not profess to offer to his readers more than a concise compilation; and he has very judiciously avoided making the book a grinder's manual, or a mere collection of catch-questions. Some of the animal chemistry appears to be a little out of date, as for example: Picromel is stated to be a component part of the bile, p. 118. On the other hand, urea is stated to be *composed* (?) of cyanate of ammonia. In many modern chemical works these substances are said to be isomeric; but isomerism and perfect identity in chemical properties are very distinct conditions. The small space to which Mr. Bower was limited accounts for the short synoptical form of many parts of the book; but we have no doubt that notwithstanding the brevity of the descriptions, the memoranda will be found useful to many students.

## Proceedings of Societies.

### ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, April 14, 1846.

Dr. Chambers, F.R.S. K.C.H. President, in the Chair.

*Some Remarks on Wounded Arteries, Secondary Hæmorrhage, and False Aneurisms.* By Robert Liston, F.R.S., Vice-President of the Society, &c.

The author states that the subject of wounds of arteries, with the consequences of such wounds, immediate and remote, has possessed, and always must possess, great interest in the eyes of the surgical practitioner. His impression, until very lately, was that no subject had been better handled or was better understood by surgeons generally, and that all writers were pretty well agreed as to the rules which ought to guide the practice in such cases. When, however, we hear of an operation being performed upon a large vessel on account of a recent false aneurism, after careful consideration of all the circumstances of the case by six surgeons, and when there is reason to believe that, at least, an equal number of respectable practitioners (not, however, engaged in the case) were ready to declare the practice pursued very wrong, and contrary to the established principles of surgery, and thus, had the vessel not been tied, the patient might now have been alive, it is surely desirable that an opportunity should be afforded of discussing this subject, and, if possible, settling the question in dispute. The author then proceeded to relate very shortly the leading facts of the case, and to support the line of practice pursued, by reference to, and relation of, some similar instances.

Mr. S., æt. 28, an exceedingly corpulent person, who had, it appears, lived excessively freely for a series of years, was wounded on 23d of May, 1845, by a pistol-bullet. It entered the upper and outer part of the right thigh, and passed out in the middle of the fold of the left groin; thus traversing the course of the femoral vessels. The flow of blood, more especially from the wound on the right side, was described to have been impetuous and profuse. It was thrown in jets to a considerable distance. The patient was found by Mr. Jenkins, of Gosport, in an almost lifeless state, and he was with great difficulty recovered from the syncope and depression. A considerable swelling soon supervened over the lower part of the abdominal parietes from extravasation of blood.

May 27th, the seventh day from the receipt of the injury, the swelling in the right groin began to increase in size, and distinct pulsation was then, for the first time, perceived in it. The tumor went on increasing gradually, and it had gained much more in bulk on the tenth day, when I first saw him, than it had done on any of the preceding ones. It was of an oval form, and elastic, but firm, as if it was partly made up of coagulum and liquid blood; but it could not be at all diminished in bulk by uniform and continued pressure. The skin covering the tumor was discoloured, thin, and incapable of bearing pressure. Pulsation was strong and distinct in all its parts. The opening on the right hip was filled with a dry depressed slough; the wound in the left groin, a jagged slit, was closed by a very thin cicatrix. The patient's countenance was blanched and waxy, and his pulse quick and feeble. He had, in short, all the appearances of a person who had lost a great quantity of blood.

The nature of the case was very apparent. A large false aneurism, not well bounded, rapidly increasing, and arising from a wound of the femoral artery, or some branch divided close to its origin, had to be arrested, otherwise the patient must be left exposed to

the risk of perishing suddenly, and at no distant period. After consultations, on the evening of the 30th, and morning of the 31st, the external iliac artery was tied, with the loss of not more than a tablespoonful of blood, and with the immediate effect of arresting the pulsation, and removing, in a great measure, the tension of the tumor. Symptoms of peritonitis supervened the evening of the second day, and on the following afternoon the patient sunk.

The author subjoined an account of the post-mortem examination by Dr. Allen, of Haslar. The course of the bullet was traced from the outside through a dense layer of fat, about two inches in thickness. It had divided one of the superficial branches of the femoral artery, about half an inch below Poupart's ligament, and about an inch from the main body of the femoral artery, which had caused a false aneurism. The sac contained about three ounces of blood. No other artery appeared to have been wounded. A considerable quantity of sero-purulent fluid was found in the abdominal cavity, and patches of acute inflammation were observed on the intestines. The peritoneum adjoining the wound of the operation was inflamed. It had not been injured by the knife. The ligature had been properly applied to the external iliac artery. The abdominal viscera were healthy, but loaded to an extraordinary degree with fat. There was some enlargement of the right limb, but apparently no mortification. The femoral artery was pervious. The blood in the aneurismal sac was firmly coagulated, and there was no mark of recent oozing from the injured artery. The ball had passed immediately over and along the course of the artery for about half an inch before dividing it. The artery, although not actually detached, would not have borne a ligature.

That a vessel of this class, the author remarked, should have bled so furiously, in the first instance, could not have been anticipated. Having done so, one can so far understand the active pulsation and rapid extension of the tumor. It was, of course, quite impossible to determine whence the blood flowed into the aneurismal cavity. The principal vessel going to the limb might have been wounded, or some considerable branch. A small branch, divided close to the principal vessel, poured out blood furiously, as much so as if an opening in the coats of the artery itself were made by a portion being punched out, corresponding in size to the area of the branch. The division of a small branch at a distance from the source from which it springs is of little importance. It contracts, and soon ceases to bleed; but when it is divided close to the trunk, blood issues from it, as it would if an opening, equal in size to the calibre of the little branch, were made in the trunk itself.

The author noticed the risk of secondary hæmorrhage in these cases, in order to show that some active measures were required to arrest the threatened danger. He objected to the operation of opening the sac, and securing the wounded vessel by ligature; that patients who have lost a great quantity of blood are often sunken and lost by the sudden effusion of even a small quantity, and, after adducing some cases in point, he remarks that the danger must be enhanced when the tumor is so placed that there is no possibility whatever of making pressure on the trunk of the artery on the proximal side of the opening into it, or of the origin of a branch wounded close to where it is given off, as in the case of Mr. S. The cyst could not have been opened without great loss of blood, and it was not likely that a ligature on the branch would have permanently arrested the bleeding; indeed, it was stated by Dr. Allen that the trunk would not have held a ligature.

The author having asked, whether there is anything to bear a surgeon out in adopting this practice, adduced a number of cases to show that vessels bleeding outwardly, or pouring their contents into the tissues of a limb or region, have become permanently closed in consequence of the flow of blood being intercepted and weakened for a time by the application of a ligature upon the principal arterial trunk. A man, thirty years of age, was wounded by a musket-ball, which entered the left groin, and passed through the inside of the thigh. On "the tenth day from the injury, the slough from the anterior wound came away, and was followed by so frightful a hæmorrhage as to leave no doubt whence it proceeded, nor, from the wound being so high up, any alternative as to the means to be adopted for stopping it." The external iliac was tied, but the patient died of fever. No account is given of any dissection of the parts. "In this case the necessity of the operation is evident, and, as far as it went, also its success. Not a drop of blood was lost after it." So says Mr. Guthrie, who, it is to be presumed, conducted the treatment of the patient. We are left to conjecture what vessel was wounded. It may have been a branch, as likely as the trunk, and those who have attended to the description of the hæmorrhage in the case of Mr. S.—to its impetuosity and amount—will bear the author out in this assertion.

The author observed that he has endeavoured to show: 1st. that the case of Mr. S. was one of great and immediate danger; 2d, that some decisive step was required to be taken, and that without a day's delay; 3d, that very great risk would have been

ncurred in attempting to put a ligature on the wounded vessel; 4th, that there was ample authority for adopting the step which was had recourse to in the case. The dangers likely to arise from the operation were considered as weighing but lightly in the scale against those impending from the effects of the pistol shot. Inflammation of the peritoneum was scarcely taken into account in consulting on this case. Out of the forty-five cases of this operation, collected by Mr. Crisp, nine, or one-fifth, died, but not one from peritoneal inflammation.

In conclusion, the author remarked that, in the opinion of those concerned, the step most likely to avert danger, and prolong the patient's life, was adopted; the only step, it has been shown, that could have possibly been resorted to with propriety or safety. Upon a candid review of the case, and with a knowledge of all the circumstances connected with it, it now remains for the fellows of the Society to say if there was left anything undone, or anything done imprudently or unscientifically, as has, it appears, been alleged. It is competent also to consider what might have been alleged against the resources of our art had the patient suddenly perished from hæmorrhage; if, in fact, we, who had all the responsibilities of this important case to sustain, had stood idly by, waiting for some miracle of nature to save the patient from the inevitable results of his wound, and the author of it from the consequences of his crime.

Mr. Edwin Lee considered that some of the cases related in the paper did not bear upon the point under discussion, which in reality was the advantage or otherwise of placing a ligature round the external iliac for a wound of that vessel, or more especially of any of its branches, inasmuch as in tying either the femoral, brachial, ulnar, tibial, or other arteries, there was sufficient means in the collateral and anastomosing branches for the supply of the distant portion of the extremities with blood. The iliac, however, when ligatured, was under peculiar circumstances, as it gave off no branches above the ligature, and those from the internal iliac being distributed to the muscles of the hip and the back of the thigh, there would be great danger of mortification of the extremity, leaving out altogether the risk of inducing peritoneal inflammation by the operation. Mortification did ensue in two or three cases detailed in the paper, in which the iliac had been tied for wounds or sloughing in the groin. The case was different when the iliac was ligatured for long standing disease, as from the continued obstruction time was given for the collateral vessels to dilate, and after this the ligatures to supply the limb.

Mr. Bainbridge (Tooting) said, that Mr. Liston's paper appeared to him to have furnished the most complete condemnation which could have been mentioned of the management of Mr. S.'s case. It showed that Mr. Liston was utterly mistaken in his diagnosis, and grievously wrong in his practice; that he imagined a large and important artery had been wounded, when all the while it was but a small and insignificant one; and that he performed a painful, difficult, and disastrous operation for the cure of a wound and aneurism in a trumpery little artery of the skin, which might have been easily remedied by the mere application of a compress. He remembered a case very much to the point with respect to the efficiency of the compress for the cure of aneurism, which he had to treat about the period of Mr. Liston's case. About the 9th of August, 1845, a man was seated on a bench, in front of the Bell Inn, Upper Tooting, cutting his bread and meat with his clasp-knife, when the ostler, in passing by, threw a hay-band over his head; the man swung his arm round, intending to cut through the hay-band, instead of which he inflicted a deep wound upon Holland's wrist, dividing the tendons and the radial artery. He was taken to his (Mr. Bainbridge's) surgery, where a few minutes afterwards he found him: his assistant was vainly endeavouring to stop the flow of blood. Mr. Bainbridge applied the tourniquet upon the brachial artery, with of course the immediate effect of arresting all hæmorrhage. After the ligatures, &c. were prepared, he loosened and altogether removed the tourniquet, and washed the wound, which, however, did not bleed, to his great surprise. Supposing from this circumstance that the artery was retracted, and that they might do very well without the ligatures, he closed the wound accurately with straps of plaster, and bound it up firmly with compress and bandage. Six hours afterwards hæmorrhage occurred, but ceased upon the application and securing of a firm compress of lint upon the radial artery higher up than the wound. Fourteen hours after the accident another bleeding took place, which also stopped upon tightening the bandages. There was no further hæmorrhage for the space of a week, when having removed the dressings in order to examine the wound (which he found nearly healed) the blood burst out with a strong jet. He again bound it up firmly, and permitted it to remain for a fortnight; at the expiration of which time, as the patient complained of severe pain in the part, the dressings were removed, and there was revealed a tumor about the size of a large walnut, which was situated at the root of the thumb, and spreading between the metacarpal bones of the thumb and forefinger;

there was violent pulsation in it, which ceased upon compressing the radial artery; there was also œdema of the thumb, hand, and forearm. Upon seeing this state of things, Mr. Bainbridge said, that it would most likely become necessary to ligature the artery, yet he would give the compress another trial. He then bound a piece of cord padded with lint upon the aneurism with long straps of plaster and bandages; and another compress firmly upon the artery. He also placed as a sort of tourniquet a bandage loosely round the limb, in such a manner as that it could be instantly pulled tight by the man or his wife upon the occurrence of hæmorrhage. A few days afterwards the aneurism bled suddenly and freely, but it was immediately checked by tightening the bandage. On taking off the dressings, about the 10th day after it had been bound up as described, he found the aneurism considerably increased in size. He then made a sort of conical compress by means of different sized pieces of cork, covered with lint, with the object of bearing more directly upon the orifice in the artery through which the blood passed, and gradually diminishing the pressure further off, and bound over it a pad of lint, which embraced and extended beyond the tumor, and covered the whole with a layer of sheet lead. He also fastened a pad of lint, covered with sheet lead, upon the course of the artery; and for additional security adapted an extra bandage, loosely as before, to be tightened in case of necessity. He did not disturb this apparatus for more than a fortnight, but merely relaxed the bandages or plasters a little when any complaint was made. At the expiration of that time he examined the part, and was pleased to see in the place of the large aneurism a deep indentation made by the corks, and that pulsation had entirely ceased. He again bound it up with a lighter pressure; and after about two months from the receipt of the injury the man was able to return to his employment, and he had ever since continued quite well. The thorough success attending the use of the compress in this case convinced him that the same means would have also been completely successful in Mr. Liston's case. The most effectual pressure, and to any amount, might have been obtained from a common spring truss, which being applied upon the groin, would have pressed firmly upon the small wounded artery as it passed upwards over Poupart's ligament, and upon the femoral artery as it laid upon the pubis. He blamed Mr. Liston because he overlooked or disregarded such a very simple and obvious means of cure. They could call to their recollection many instances of perfect recovery after the most dreadful injuries had been received. He remembered seeing, several years since, in the College museum, a sort of trophy of Sir William Blizzard's; it was the shaft of a cart, concerning which, it is stated upon a card affixed to it, that it went right through a man's body, who, nevertheless, quite recovered under Sir William's care. In comparison with such a case, Mr. S.'s injuries must have been slight indeed. He stated, therefore, that in the management of Mr. S.'s case, Mr. Liston did not exhibit that necessary caution and correct judgment which might have been expected from one occupying his high station in the profession.

Mr. Liston was not depressed by the remarks just made by Mr. Bainbridge. The case had already been made the subject of animadversion in various quarters; but he had acted on very good advice at the time, and, after a most careful consideration, had brought the entire case before the profession. Beforehand it was utterly impossible for any one to say what was the vessel wounded; at the time of the receipt of the injury there was much bleeding, forming a large aneurism, having as violent a pulsation as he ever saw in any aneurism, and liable at any moment to give way and destroy the patient. It was no imaginary danger with which the surgeon had to contend. He had, in bringing the case before the Society, written to various gentlemen, who had expressed themselves freely in opposition to the practice he had pursued; they had not, however, for some reason or other, attended, although it would have been desirable to have heard their reasons for condemnation, in order that they might have been answered. With reference to the treatment he had used in regard to this case, he would read an extract from an eminent surgical authority, who having placed a ligature on the external iliac, under somewhat similar circumstances, thus spoke of the attacks to which he had subjected himself:—

"It may be said of these operations, that none of them were required by the strict rules of surgery, which enjoin that, in cases of arterial hæmorrhage, we should cut down to the place from which the blood is observed to issue, and there secure the proximal and distal portions of the injured tube. All most true, and I most gladly subscribe to this aphorism, along with your regular systematic compilers of surgical treatises, manuals, and compendiums; but alas! in actual practice, how many exceptions are we compelled to make. What would such mechanical men of principles have said had death suddenly taken place (as undoubtedly it would) in attempting to secure a sloughing, soft, and diseased arterial tube? Why, that I ought to have first tried what a ligature thrown round the iliac artery could accomplish, and if a clot did not form, as

*in all human probability it would*, then recourse might be had to the dernier resort, the ligature on the distal side of the hæmorrhagic spot also. Thus it is that you must lay your account, when you advance in practice, to meet with animadversion and *criticism, do what you will.*"

He was at a loss to understand the exact gist of Mr. Lee's remarks, which did not appear to bear at all on the case, and with respect to Mr. Bainbridge's case it appeared to him to have been mismanaged from beginning to end.

Mr. BAINBRIDGE observed, that in his case the patient recovered; Mr. Liston's case was unsuccessful, and therefore was not managed so well as his own.

Mr. EDWIN LEE said that his objections to the operative proceedure in Mr. Liston's case had reference to the difficulty of carrying on the collateral circulation, and the fear of mortification in the extremity.

Mr. LISTON did not differ from the last speaker in reference to the danger which threatened the limb, from ligature of the iliac artery, but even with this fear of mortification the surgeon would be justified in performing the operation; for he had seen over and over again, cases in which no such result followed the proceeding; although he fully admitted that cases had occurred in which the lower portion of the limb had perished, and its removal by amputation had become necessary. Should a case similar in every respect, presenting the same difficulties, come again before him, he could only observe that he should pursue the same course he had in the prcsent instance.

Mr. HILTON suggested, that as the chief person implicated in the duel with the patient whose case was before the society, was still untried, it would be desirable to discontinue the discussion. He made this motion with every feeling of respect to the author of the case.

Mr. ARNOTT seconded the proposition, and observed that though it was his opinion that the principle in surgery, that an artery should be always secured at the seat of injury, he thought in this particular case Mr. Liston had fully made out the correctness of his practice. Mr. Liston did not see the patient until ten days after the receipt of the wound, at which period an aneurism had formed, and it was impossible to apply pressure to the artery above the wound. The question of practice generally in cases of wounds of arteries had not been opened by Mr. Liston, but he had confined himself to the details of this special case; and he, Mr. Arnott, could only repeat, that, as much blood had been lost, and the patient was rapidly sinking, Mr. Liston acted in the most advisable manner.

Mr. DALRYMPLE, in reference to the remarks of Mr. Hilton, would remind that gentleman, that the question of treatment by the surgeon in this case, had been fully and completely disposed of by the excellent judge who had presided at the late trial. No discussion, therefore, in regard to this case, could influence in any way a future trial. The observations of the learned judge, as well as the style of the previous criticisms on this case, were a full justification of the author in bringing it before the profession, as he had been the subject of unjust prejudices and gross misrepresentation. Mr. Bainbridge's case had no bearing whatever on the one under discussion, it was by no means a rare one, and he, Mr. Dalrymple, was at a loss to understand why the radial artery was not tied at the outset, as the surgeon was aware of the artery being wounded and retracted, and of course would expect the occurrence of secondary hæmorrhage. No analogy could be drawn between this case, in regard to compression, and tne one before the society.

MR. QUAIN said that if he thought the discussion of the subject before the society could in any way influence the result of a trial which may hereafter arise in a court of justice, he would give his willing support to the proposal of adjournment made by Mr. Hilton. But he entertained the opinion that the manner in which the case of Mr. S. was introduced, anticipated the objections, inasmuch as the author of the paper admitted all that could be advantageous to the person accused. It was stated in the paper, that in the judgment of its author the immediate cause of death was the surgical operation; and no advocate on a trial could desire to prove more than this: under such circumstances, the discussion could not, it appeared to him, have any injurious effect as regarded the inquiry in a court of law.

He continued to observe, with respect to the management of the case, that the whole subject resolves itself into two questions;—The first question being, was the operation necessary? On this point he directed attention to the fact that, exclusive of Mr. Liston, other surgeons of experience and eminence in the naval service had been engaged in the treatment of the case. Dr. Mortimer, a man of long experience in the public service, and other surgeons, were unanimous as to the necessity of the operation. They had watched the case, and, to say the least, it must be hazardous for others, who had no personal acquaintance with the condition of the patient, to call in question their judgment.

Then, as to the second question; namely, the operation being necessary, was the one performed the best suited to the circumstances of the case? On this point he en-

tirely concurred in the view taken by Mr. Arnott. But it has been said that the vessel wounded was after all a "trumpery" one. To this it is answered, that it was impossible to determine by dissection what artery was actually wounded. It has been shown too that in some cases, and under peculiar circumstances, arteries of small size have bled profusely, so as even to cause death. He himself had made reference in a published work to a case in which hæmorrhage from a small vessel wounded in an operation had been fatal. Mr. Stanley once told him that he had known a person die from the division of a small branch of the epigastric artery in an operation, as well as he remembered, for strangulated femoral hernia. And another similar case is recorded. Moreover, it should be remembered that, in the case under consideration, profuse hæmorrhage is stated to have occurred; and a repetition of hæmorrhage was believed to be imminent. He concluded by observing that, under all the circumstances of the case as they are now before the Society, he expressed the opinion that the operation performed was, notwithstanding the result, the right one.

Mr. CURLING, after a most careful and anxious perusal of the case under discussion, agreed in opinion with Mr. Arnott, respecting the treatment pursued. He could not, however, feel the force of Mr. Quain's statement, respecting the danger to be apprehended from a wound in a small artery near to a main trunk, as he conceived that the coats of the wounded vessel would possess sufficient contractile power to diminish the opening made.* The pulsation in Mr. Liston's was very considerable, an anomaly he thought difficult to explain, considering the small size of the wounded vessel.

## SOUTH LONDON MEDICAL SOCIETY.

April 17, 1846.

EDWARD COCK, Esq. President, in the Chair.

DR. LEVER read the following cases:—

The first, a married woman, æt. 44, having, since a miscarriage some years back, suffered from scanty and painful menstruation and leucorrhœa at intervals; in other respects has enjoyed tolerable health up to a sudden cessation of the catamenia eight months back, from which time she dates her present symptoms. She first noticed a fluttering sensation in the left iliac region; after this had lasted two months a hard tumor was felt, followed by swelling of the left leg and rapid enlargement of the abdomen, causing much dyspnœa and dysuria. On admission into hospital, the urine, which was small in quantity, was passed frequently. Pulse small, feeble; bowels regular. The abdomen, much distended, gives a distinct feeling of fluctuation on percussion, very distinct in front, but not so clear posteriorly; at upper and left side a hard nodular body can be felt: measurement at epigastric, umbilical, and midway between this and pubic region, gives 35, 41½, and 42 inches. Diuretics, by increasing the urine, caused diminution of these measurements, but there was increased dyspnœa in the erect posture. Her strength declining she was sent into the country, but was again admitted in about three months, with increased dyspnœa on exertion; the abdomen was irregular, with a projecting cyst below the stomach, and remarkable prominence in the left hypogastric and umbilical regions. Measurements at before-mentioned places, 46½, 48, 46½ inches. Paracentesis was performed; nineteen pints of brown-coloured fluid, with fibrinous particles, were evacuated, and being much relieved, she left the hospital. She was admitted in six weeks time, with similar symptoms as before; and at another operation 32½ pints of greenish fluid were drawn off: this was soon followed by rigors and abdominal tenderness, probably from inflammation of the cyst, the wound suppurating. The abdomen again enlarging, 26 pints of coffee-coloured fluid were drawn off from the cyst, and 16 from the peritoneal cavity: the operation was well borne, but on the following morning the patient was seized with chilliness and sickness. Tongue was white; pulse quick and flickering; with soreness, but no pain on pressing abdomen: from this time she sank, and died on the following day. The chief bid appearances were as follows:—A large multilocular cyst, occupying the whole anterior part of the abdomen, adherent to its walls and the intestines: the chief part of the tumor consisted of large irregular cysts; the most internal being smaller, filled with tenacious fluid. The peritoneum thickened by old inflammation; intestines also adherent in parts by more recent effusion: their muscular and mucous coats could be readily drawn from each other. The liver softened; its texture, indistinct, was adherent to surrounding parts by old adhesive matter. On microscopic examination of the secretion in the cyst, there appeared two kinds of globules, differing in size; aggregated they formed opaque white flaky masses in the homogeneous contents of the cells: the contents of the cells were not soluble in ether.

The second case was that of a married woman, who had never been pregnant. She,

* In this case the contraction of the vessel could not take place, as it will be seen on reference to the post-mortem examination that the ball had passed along the branch and bruised it before it was divided.—*Reporter of Gazette.*

ten months back, first felt fulness in the vagina, which sensation increased until her admission. For two months she has suffered from pain of a shooting character, extending from the right groin to the hip and back, and not accompanied with any vaginal discharge. On admission her face was anxious: pulse small and quick; the abdomen tympanitic superiorly; is inferiorly full; dull on percussion on the right side; uneven; slight pressure causing pain; on the left side resonant without tenderness. About one and a half to two inches above the anterior spinous process of ilium two or three rounded bodies are felt, having a restricted motion and painful when pressed upon; between these and the pelvic brim, dulness exists, and distinct fluctuation can be detected. Bowels usually relaxed, but she possesses but slight control over the sphincter ani; when motions are more solid, they have a flattened appearance: pain and difficulty exists on passing water, of which there is but little passed at a time, but it is healthy in character. On examination per vaginam the uterus is detected high up, and rather obliquely placed; the os patent, and readily admitting the sound, which was passed three inches: motion of the uterus did not affect the tumor of the right iliac fossa, nor vice versâ. The vaginal canal was obstructed posteriorly by a wedge-shaped swelling, yielding on pressure, which caused slight pain, and evident fluctuation was felt when the hand was placed on the *abdominal* swelling. The calibre of the rectum is diminished by the tumor of the recto-vaginal septum, and fluctuation is readily detected here as in the vagina. The fluctuation becoming more distinct, a grooved needle was passed through posterior vaginal wall, and about ʒiij. of thin serous fluid escaped: more passed afterwards. After this the finger could be passed per rectum more easily than before, but the cyst appeared to be firmly attached or tied down in the recto-vaginal pouch: it (the cyst) could also be detected in the right inguinal region. The sac refilled quickly, and causing by its pressure much inconvenience, was emptied by trocar and canula, of a dark red coagulable fluid. The health improving after this she left the hospital. Two months after, the fluid having again formed, twelve ounces were drawn off by canula; a week after this, being exposed to cold and wet, she experienced rigors, succeeded by diarrhœa, cough, and great exhaustion, with slight pain in the right iliac fossa. The diarrhœa was improved by chalk mixture and laudanum, and brandy; a considerable quantity of fœtid urine, resembling in appearance thin gruel, was passed, but the diarrhœa and other symptoms returned with increased violence, and the patient rapidly sunk.

On post-mortem examination the uterus was found filling the cavity of the pelvis, adherent behind to the sacrum and to the sides of the pelvis by extension of the malignant growth. The cavity of the uterus was found small, its walls of dense cartilaginous structure, and adherent externally to a fungoid mass, most probably originating in the *left* ovary. A large irregular sloughy cavity, with sloughing fungoid walls, existed between the rectum and vagina: an irregular opening, caused by the same disease, existed in the posterior parietes of the bladder. On the right side of the uterus a large pendulous tumor existed in its external walls; similar hard cartilaginous degenerations affected the pelvic and lumbar glands, and implicated the right sciatic nerves; the cellular tissue around the internal iliacs was condensed, apparently with the same deposit, in the midst of which the coats of the vessels remained entire, and their cavities non-obstructed. Parietes of the bladder thickened and congested; its rugæ covered with plastic effusion: an irregular opening, four lines in diameter, led into the cavity before mentioned. Uterus distended; pelves of the kidneys enlarged, and containing puriform urine. Kidneys enlarged; surface contracted, white, and variegated with undefined patches of injection, and minute ecchymoses. On section, the cortica portion presented the same appearance; the white degeneration not uniform; the striated appearance corresponding with that on the surface: these appearances appeared to arise from inflammation of uriniferous tubes, which were filled with inflammatory exudation corpuscles.

The uterine disease appeared of two kinds—soft medullary fungus, and hard cartilaginous scirrhus; a point of special interest was the development of cysts containing clear serous fluid, and having the cerebriform fungoid masses projecting from the walls. On microscopical examination, the soft medullary tumors were found to be made up of cells with thick walls, containing one, two, or three nucleated cells; the absence of connecting tissue would account for its soft cerebriform character. The hard fibrous parts were cellular, but the cells were not so large or distinct, and imbedded in firm fibrous connecting tissue, which also contained a number of fat cells. Elongated fusiform cells were also contained in the hard fibrous growth.

In respect to the diagnosis in the above cases, the author had always regarded the first as one of multilocular encysted dropsy, but had considered it an affection of the left ovary, which the patient's narration (not always to be depended upon), symptoms, and examination, tended to confirm; whereas on careful examination the *right* was found

affected; but as the more solid part of the cyst was on its left side this might have caused gravitation to left side of lower abdomen. The second case was viewed as encysted dropsy of the ovary, the cyst falling into the recto-vaginal pouch, and becoming adherent—for, when emptied, the sac did not admit of the slightest movement : the author was led to conclude that there were none or but slight abdominal adhesions, from the circumstance that the tumor felt through the abdominal walls was moveable, and the ovoid bodies seated in the upper part descended or ascended as the tumor was emptied or became full; the long stalk by which one of the ovoid bodies was attached to the uterus would account for the immobility of this tumor when motion was imparted to the uterus. The points in the post-mortem appearances which appeared of interest were the extensive and old peritonitis, and the period of its occurrence, the microscopical characters of the morbid parts, and the two-fold disease found in the second case. Another interesting point in this last case was the condition of the urinary organs, both kidney and bladder containing inflammatory products, the fine uriniferous tubes containing exudation globules. As regards the treatment, the author believed paracentesis should never if possible be performed, as he believed the greater number of patients died within three years from its first performance; perhaps it would be preferable, where really necessary, to draw off only a portion of the fluid; for the more frequent the operation, the quicker does the fluid re-collect, and in proportion enfeebles the patient. In the second case, interference became necessary on account of the distressing symptoms caused by the diminished power over the sphincter ani, and by the pressure on the bladder, urethra, and nerves, the whole of which symptoms were much improved by the operation. As ovariotomy was out of the question in both cases, the author would not refer to that operation.

Dr. Chevers enquired with regard to the most appropriate treatment in cases where large abdominal cysts are complicated with ascites. Is it right, in such instances, to puncture the cyst at once, and evacuate its contents? He believed that the dyspnœa would generally be sufficiently alleviated by removing the fluid from the peritoneal cavity. If the cyst be opened before the ascitic fluid be drawn off, effusion of the contents of the cyst into the peritoneums will probably occur—an accident which may be followed by the most dangerous consequences. He thought it would be better, first to remove the fluid from the peritoneum, and afterwards, if necessary, to evacuate the cyst.

Dr. Lever, in answer to Mr. Cock, stated that he agreed with Dr. Chevers as to the propriety of removing the fluid from the peritoneum previous to tapping the sac itself, but thought diuretics should be first had recourse to, and on their failure paracentesis. In reply to Dr. Hughes, he agreed as to the difficulty of diagnosis in many cases of ovarian disease complicated with abdominal effusion. The uterine sound was very useful in diagnosing whether tumors were within the cavity or in the walls of the uterus. To show how little the patients' narrations can be depended upon, a case was mentioned where a patient's accurate description led to a conviction of ovarian disease, but where the tumor was found to be an enlarged spleen. In nine cases out of ten of ovarian disease the tumor gets behind the uterus.

Dr. Barlow also mentioned a case where ovarian disease was expected, but an immense cyst was found descending from the liver.

Dr. Aldis expressed himself aware of the difficulty of diagnosis at times in some forms of ascites; dulness might exist in front, and resonance towards the lumbar region, and often the same symptoms may be present as in ovarian disease. The clearness of the fluid was worth notice, as it was generally considered that where malignant disease existed it was usually of a coffee-ground colour. He had seen the operation prove very useful, and thought Dr. Lever's opinion might be drawn from his experience in hospital practice, where the effects of confinement and bad air were to be taken into account.

Mr. Crisp regarded tapping justifiable when dyspnœa became great, and mentioned a case where a girl's abdomen being enlarged from a multilocular cyst, tapping was resorted to, and she remained for some years without increase; did not consider that it was a matter of much practical importance to distinguish which ovary was affected. He had rarely seen ascites with large ovarian cyst; where they were conjoined there would be some difficulty in diagnosing the ascites.

Dr. Chevers considered that such complication occurs, though not frequently.

Dr. Barlow mentioned a case of this form of disease, where paracentesis was performed, and the peritoneal fluid drawn off, and a multilocular tumor remained. He agreed with Dr. Lever that, as a general rule, he would not advise the operation unless urgently called for, and when performed it should be with more caution than is usually the case.

Mr. Waterworth alluded to the case of a lady, æt. 74, who had been tapped 128 times, and it was remarkable, that, with two exceptions, the operation was performed with the trocar by the patient's sister.

Dr. Silvester, alluding to the extreme caution necessary in the diagnosis, mentioned a case where a tumor existing on the right side, and gradually increasing, was considered to be ovarian disease; paracentesis

was performed, but no fluid escaped; on examination after death, the pelvis was found full of fluid, and it was seen that peritonitis had extended over the entire surface of the bowels; the coagulable lymph which had been effused, had in contracting drawn together the viscera, and formed a tumor having the appearance of hanging from the spine.

Dr. LEVER explained, that if dangerous symptoms from the effusion arose, the operation must of course be performed; he contended only against its indiscriminate use; his conclusions regarding the operation, drawn from upwards of 100 cases, were, that the average duration of life after the operation did not exceed 2¼ years, if as much; it might be advisable to draw off only a portion of the fluid. A case was mentioned where the operation had been performed by an old lady with a darning needle.

At the next Meeting, April 30, Dr. Todd will read a Case.

## Medical Trials and Inquests.

MIDLAND CIRCUIT.

Northampton, Wednesday, March 4, 1846.

[Before Mr. Justice COLTMAN and a Special Jury.]

*Policy of Life Insurance vitiated by Concealment of Hernia.—Diagnosis of Hernia.—Medical Evidence.—Medical Ethics.*

ASHBY and Others, Executrix, &c. *v.* BATES.

THIS was an action against the Argus Insurance Company upon a policy for the sum of 500*l.*, upon the life of Richard Ashby, farmer at Rugbrook, lately deceased. The first plea alleged that it was untrue that he had not rupture or any disease tending to the shortening of life, concluding with a verification; second plea, fraud.

Mr. Whitehurst proceeded to open the case for the defence. The insurance was effected in April 1844, the deceased being then 63 years of age. Before this could be effected, it was required as usual that three papers should be signed—one by himself, one by his usual medical attendant, and one by a friend, not being a relation or interested in the policy, and that he should be subjected himself to an examination by a medical gentleman named by the office. Each of these papers contained questions put by the office as to the general state of health of the party, and as to his being, or having at any time been, the subject of any one of several enumerated maladies, among which was mentioned rupture, or any other disease or affection tending to shorten life. All these answers distinctly denied the existence of rupture then, or at any time previously, or of any other disease or affection tending to shorten life, and was satisfactory to the office, who then named Dr. Robertson, Physician at Northampton, as the gentleman to examine him, who accordingly did so in the manner described in his evidence, and wrote to the office, describing the party as being, to all appearance, hale, hearty, and robust, with a slight tendency to apoplexy, broad shoulders, and rather a short neck, but nothing particular, and stating that he thought that it was a life they might take. The policy was then granted, at a premium of 34*l.* The paper signed by the deceased, and dated the 3d of April, 1843, contained these words: "I declare that all that is stated or contained herein is true; and I agree that this declaration shall be the basis of the contract." In May, 1845, the Company were informed that he was dead, and, upon making inquiry, it appeared that he had died of strangulated hernia; and it further resulted that the Company deemed it their duty to resist the payment, and defend this action.

Dr. A. Robertson called.—Has been between twenty and thirty years a physician in this town, and is physician to the infirmary here. At the request of the office, examined the deceased in the month of April, 1843, in the same mode in which he was always used to examine. He described this mode. He began with the head, and proceeded downwards to the heart, lungs, and other viscera, and so on until he came to the lower part of the belly. He then asked them if they had any rupture or any thing unusual in those parts, cautioning them most carefully to conceal nothing from him, and warning them that if they did, it would vitiate the policy. If they answered explicitly "No," why then he proceeded no further. The deceased answered, "No, nothing of the sort." If he had told him about his having been to another medical man to consult him about a swelling, of course he should have examined the nature of it. There might be particular circumstances of complication and difficulty in hernia, but, as a general rule, he should say that it was very easily distinguished from any thing else.

Cross-examined.—Should say that no careful and well-informed medical man could mistake hernia. Varicocele was a swelling of the veins of the spermatic cord. It did not dilate upon coughing. The test of hernia or rupture was by taking hold of the swelling, and making the patient cough, which caused it to protrude. It had a tendency to protrude. When large, it swelled upon coughing. Did not agree with Sir A. Cooper, if he wrote in his treatise on Inguinal Hernia that "varicocele was more frequently than any other disease mistaken for omental hernia." Hernia, when irreducible, is not always immediately dangerous, but might become so at any hour of any day. Any exertion might produce strangulation. Always

told a man with irreducible hernia that his life was in perpetual jeopardy. Swelling of the testes could not be mistaken for it. Where a person died after an operation for hernia, its being of long standing would usually be indicated by the adhesion. Knew that he was blind and paralytic before his death. Thought that it was possible, but not likely, that a person might have hernia come on from taking three strong emetics one after the other. Knew that Mr. Lawrence had written that the action of the respiratory organs, as in vomiting or straining downwards, might produce it. Had never met with it from evacuation, upwards or downwards. Hooping-cough might cause it in infants. Did not know about its being common in cavalry regiments, or that riding on horseback was likely to produce it. It was more frequent with sailors, who never rode at all. Mr. Mash, the house-surgeon of the infirmary, performed the operation. Any degree of adhesion between the hernia and the sac would indicate that it was of long standing, but there being no adhesion did not shew that it was not of long standing.

Dr. Charles Kerr.—Has been a physician at Northampton twenty-three years, and thirty in the profession. Mr. R. Ashby came to him on the 13th of November, 1843, to consult him about a swelling in the lower part of the abdomen. Examined the part with considerable care. The scrotum was very large. Found there was a hernia, and made endeavour to reduce it unsuccessfully, till he thought it imprudent not to desist. Examined him as to his general health, and found it very good. He was full and robust. He told witness that it had been coming for a considerable time. Told him to come again in a fortnight. Made a second examination on the 9th Dec. 1843. Endeavoured to reduce it (the hernia), and took considerable pains, but it was quite ineffectual. It was what is commonly called an irreducible hernia. Had no doubt that he mentioned to him that it was rupture or hernia. Saw him in December 1844 for quite a different disease—neuralgia. Had no doubt whatever that what he had spoken of was hernia. It was possible that it would be mistaken, as eminent men had mistaken it. Had as perfect a conviction as he ever had in surgical practice that it was a plain case of inguinal hernia. There might be complicated appearances in certain cases. This did not appear to be one of that kind. The swelling was very large, about the size of his two fists, and of a different character to a sac having fluid in it (hydrocele). If a hydrocele were large it would lose the pear shape, otherwise it would be like the shape of a pear with the thick end uppermost; but hernia would never resemble a pear with the thick end downwards.

Cross-examined.—If the hernia contained omentum, which he thought it did, it might get thinner, if he got thinner, by absorption; otherwise, if irreducible, as he had stated, it must have remained undiminished in size until he died. Did not think it likely that the hernia could have escaped the observation of a medical man who was putting him into a bath. Could not say that before his death he had mentioned it to Mr. Helston, who was attending him.

Mr. Coulson then gave similar evidence as to the nature and characters of hernia, as distinct from hydrocele, variocele, swollen testis, and affection of the spermatic cord.

This being the case for the defendants,

Mr. Humfrey proceeded to address the jury on behalf of the plaintiffs, suggesting that physicians were not so well acquainted as surgeons with the diagnostics of a disease so peculiarly surgical, and contending that the malady was an enlarged testis, which the deceased had from his birth, and that the rupture of which he died came on a very few days only before his death, from the effects of three very strong emetics which he had taken one after the other, administered by a Mr. Smith to relieve his total blindness, or from straining at that time in the one way or the other. The learned counsel also urged the resemblance in appearance of both hydrocele and variocele to inguinal hernia, as accounting for Dr. Kerr having been mistaken; and then called the following witnesses:—

Mr. W. Norton, farmer, knew the late Mr. R. Ashby for twenty-four years before his death; certified for him when he effected the insurance. Knew that he had a swollen testis. Never knew of his having a rupture.

Mr. Helston is a surgeon, and has been in practice fourteen years. Had attended deceased for many years until within five years ago, when he ceased to attend him for two years. In 1844, gave the certificate for the insurance office. Examined him with reference to the questions put by the insurance company. Discovered an enlargement of the left testis, and a thickening of the spermatic cord. Then examined him in the usual way for hernia, by pressure with the hand and by making him cough violently. Discovered no swelling or enlargement of the ring, which is partly muscular and partly tendinous. Continued the examination until he was perfectly satisfied that he was not then, nor even had been, the subject of hernia. Witness was concerned for seven or eight medical clubs. Always examined the proposed members of such clubs for hernia. It was an important part of his duty. Irreducible hernia could not have existed, as had been described, in November 1843, and been so reduced as when witness examined him. He generally went about on a donkey with a saddle. He always was about his business

daily. Attended him in November 1844. From his complaints then, considered at first that it was an apoplectic tendency. He complained of head symptoms, for which he was cupped and leeched, and witness ordered him the warm bath: the usual antiphlogistic treatment. He suffered from piles at this time. Dr. Kerr attended consultations with witness and his partner during the last fortnight before his death. No mention was ever made of hernia by either. He had varicocele, which occasioned the thickening of the spermatic cord. He complained of pain arising from the testis and the spermatic cord about a fortnight before his death. Then examined him, and there was no appearance of hernia. He was incapable of doing anything, and the women of his family attended him, lifted him in and out of bed, and washed and fed him with bread and milk like a child. This was rendered necessary, partly by paralysis and partly by blindness. He consulted Mr. Smith, of Southam, who prescribed three strong emetics, and also some strychnine, all of which he took. The emetics contained a full dose of tartarized antimony. Straining would be calculated to produce hernia. Had witness supposed that he had hernia, he would not have suffered him to take what was so prescribed.

Cross-examined.—He died from the consequences of the operation for hernia. Had not seen him for nearly a fortnight before his death in Jan. 1845; did not reduce a rupture which he had (then?) or at any other time. (A letter was then put into his hand, which he said was his hand-writing.) He again stated that he had never said that the deceased had had hernia. (The letter was then put in and read. It was addressed to Dr. Robertson, the first witness, and stated that the deceased had had a slight hernia about four months before he died, which he had reduced.) He had complained of varicocele, which he had reduced by manipulation. What he wrote in the letter was the falsehood, not what he said to-day. He called varicocele an enlargement of the veins of the spermatic cord. In April 1844, saw the suspensory bandage. He had been affected with that ailment from his birth. He had a tendency to apoplexy. He yet thought it right to order warm baths after he had cupped and leeched him, and applied cold lotions to his head. He occasionally suffered from slight rheumatism, for which, before 1841, he invariably attended him. Came into the room perhaps half an hour after the operation. Was not present, because he was unwell, and had been confined to his bed for several days. The operation was performed in the night, earlier than 4 o'clock.

Re-examined by Mr. Humfrey.—The disease under which the deceased had laboured had existed from his birth, and he did not think it at all important when he signed the certificate. The letter read was in answer to a letter from Dr. Robertson, which was marked "strictly private," and contained a promise that he might rely that his name would not be given up in any way.

Mr. William H. Walker, partner of the last witness, attended the deceased professionally for about a fortnight before his death. Met Dr. Kerr there many times, in consultation about Mr. Ashby's case. Several times assisted in putting him in the bath. Saw no such swelling as had been described. Thought he must have seen it if there had been such. Was fetched about 4 o'clock the day before the death. He complained of having been sick, and of a sudden violent pain and enlargement of the scrotum, as if something had fallen down. Upon that he examined the part. Asked him if he had ever had an attack of that kind before. He said "Not to my knowledge," but added, that a fortnight previously he had been taken with a violent pain in his bowels, and that Mr. Helston had been sent for, and did something to him; and he soon after became better. He said this particular appearance had happened about an hour previously. He continued very ill, and Mr. Mash was sent for from the infirmary, and attempted, with his assistance, to reduce the rupture. It was both omentum and intestines. Saw the operation performed by opening the ring with a knife. The cause of strangulation and pain was removed after the operation. He bore the operation very well indeed. Mr. Mash succeeded in returning the whole, but it came down again, though the cause of strangulation was removed. There was no adhesion, and it appeared to witness to be a case of recent date.

Cross-examined.—The deceased told him that the fortnight before Mr. Helston had done something which relieved him, but did not mention the word "operate" or "rupture." It was witness's own conclusion at the time that it might have been for rupture. [This witness here produced a letter which he had received from Dr. Robertson, and which was similar to the one addressed to Mr. Helston, which had happened not to have been brought, and sought information as to the cause of the death. It was marked "private," and gave assurance that the witness might rely that his name would not be given up, or himself brought into any trouble or difficulty. The answer was then called for, produced, and read; and, unlike the answer of the other witness, tallied very accurately with the evidence given by Mr. Helston to-day, as well as with that of the present witness.]

Mr. James Mash.—Is resident house-surgeon here, and has been so for twenty years. Performed the operation. Found

strangulated hernia. Would not have given strong emetics. Mentioned in the presence of Mr. Harrison, the clergyman, that it was a very bad case, and that he wished to have some other surgeon sent for. There was old age, an enfeebled constitution, deafness, and partial paralysis. There were slight adhesions at the upper part of the sac. If it had been a case of long standing, there would, he thought, have been some changes, which there were not. It might have been the result of a few hours, of a week, of a month, or more. There was considerable inflammation, which would produce adhesion. From what he saw, when he performed the operation, and afterwards, there was nothing to induce him to believe that it was as much as fourteen months old. Had several times known persons sent to the hospital by respectable surgeons for hernia where there was no hernia at all. Had seen many cases which puzzled him to know hernia from other diseases affecting that part. Upon returning the omentum and intestine, observed that there was an enlargement of the left testis. Had on one occasion himself returned all the omentum and intestine, and afterwards discovered a hydrocele as big as his fist. Enlargement of the testis sometimes accompanies hydrocele.

Cross-examined.—It perhaps might be his first and natural conclusion, if he saw a hernia as large as his two fists come down suddenly, that there had been a former hernia reduced, which had come down again. Supposing that the man had this affection of the testis from his infancy down to 63, he should not have thought it of consequence. If it (the hernia) had come down a fortnight before and been reduced, it might account for the size. With the stricture which he found there could not have been a hernia as large as two fists reduced by being drawn up, or without recourse to the knife.

Mr. William Williams, surgeon.—Cases of hernia may be and have been confounded with hydrocele and varicocele.

Mr. Frederick Cox.—Has been a surgeon for nine years, at Welford. Never heard of an irreducible hernia of the size of two fists being spontaneously cured, or reduced without the knife, except under circumstances of great emaciation.

Mr. Robert Marriott Freeman.—Hydrocele of the sheath might be mistaken for hernia. Was present at the Birmingham Hospital, very recently, when an operation was performed by an eminent surgeon for what was supposed to be hernia in the passage to the scrotum, which turned out to be a watery swelling or hydrocele, with a swollen testis and thickening of the spermatic cord. He had now a case where he had intended to operate six weeks ago for hydrocele, and the patient afterwards came and declined to have the operation performed, as it was all rapidly going away.

Mr. Charles Dodd and Mr. Marshall concurred with the other medical witnesses for the plaintiff, as to the disease of hydrocele having been sometimes mistaken for hernia by surgeons, and there being, not unfrequently, great difficulty in distinguishing.

All these last five gentlemen concurred almost entirely with the other medical witnesses for the plaintiff as to hydrocele and varicocele being sometimes mistaken for hernia; but they one and all denied ever having operated under such mistake, though they admitted that there was considerable difficulty in distinguishing.

This was the case for the plaintiffs.

Mr. Humfreys, counsel for the plaintiffs, addressed the jury upon the letters, animadverting upon the use that had been made amongst medical gentlemen of confidential letters, written on request, and under such a pledge as had been stated. He contended, however, that the letters, taken together, told strongly in favour of the claim of his clients. After Mr. Justice Coltman had summed up, the jury returned a verdict for the defendants upon the first issue, viz. that the deceased, at the time of effecting the insurance, had hernia; and for the plaintiffs upon the issue of fraud. The verdict is, therefore, for the defendants, and in favour of the Office*.

Remarks.—We should have felt heartily rejoiced if any doubtful circumstances, or mitigatory facts, had existed which would have enabled us to place a favourable construction upon the conduct of a leading witness in the above case. It is with regret, however, we find that there is no ground of exculpation for conduct which must, to a certain extent, affect the character of the whole profession.

It would be a long and unprofitable task to endeavour to prove the correctness or incorrectness of the opinion that Mr. Ashby was either not the subject of hernia at the time this witness attested the soundness of his health in April 1844, or was then suffering from a diseased condition of the testicle and spermatic cord, which rendered the existence of a reducible hernia unknown to himself, and by no means easily recognisable by his medical attendants. But it appears very clear that sufficient evidence was adduced in favour of the plaintiff's side of the argument to have rendered it highly probable that a verdict must and ought to have been given in their favour, had not the most important feature in the evidence been marred by the conduct of the witness who

* Abridged from Times Report.

gave the medical certificate required by the Insurance Office. This was to the effect, that in April 1844, he examined Mr. Ashby for hernia, and was perfectly satisfied that he was not then, nor ever had been, the subject of that disease. A certificate of this kind must, we apprehend, if coming from a credible source, have gone very far to prove the plaintiff's right to a verdict, for, as the report stands, it does not appear that a single positive fact was adduced in evidence to show that the deceased suffered from hernia previous to the time at which he made his declaration—namely, 3d April, 1843*. But when the witness declared upon oath, at the moment he held in his hand a letter which he admitted was written by himself, that he had never said the deceased had had hernia, when the letter is found to contain an admission that the deceased had had slight hernia about four months before he died, which he (the witness) had reduced; and when he further admitted that what he wrote in that letter was *a falsehood*, and implied that he had not in reality reduced a hernia, but had performed the incomprehensible operation of reducing a varicocele by manipulation, it was not likely that the jury would place any confidence in his testimony.

The whole case, indeed, affords an important lesson to all parties, whether insurers or insured. Good faith and upright dealing are required on both sides, or the agreement is invalid. The facts proved at this trial, afford a curious illustration of the state of medical ethics in this country. A physician employed by an Insurance Office procures a letter from a surgeon who had certified to the state of health of the deceased, under a promise "that he might rely that his name would not be given up *in any way*." The letter was marked "strictly private." At the trial the surgeon makes a statement directly contrary to that which is contained in the confidential letter. The "strictly private" communication is then handed by the Insurance physician to his employers: and the name of the writer is not only given up, but the Insurance Company gain a verdict, not by proving their case, but by showing that the testimony of the principal witness on the part of the plaintiffs was unworthy of credit. Here, then, is a double warning. A medical man should not certify one thing and swear to another; and "strictly private" letters forwarded to the medical officers of Insurance Companies will be dealt with according to law—*i. e.* exposed in court, if they can be made in any way useful towards obtaining a verdict. For our part, we think that in a case like this, an Insurance Company has no right to rely exclusively upon what another and, to them, a strange practitioner perhaps carelessly certifies. It was competent to their own medical officer, with any knowledge of his profession, to determine whether hernia existed or not. The paid officer of the Company, however, is contented with barely asking a question; the probably unpaid medical referee makes a careless examination, or makes a careless return, when the party who suffers in the event of an erroneous report is the insured, who may probably have been ignorant of his real condition. A policy should undoubtedly be vitiated by any material concealment on the part of the insured; but when it is in their power to appoint experienced surgeons and physicians, and *pay for their services*, Insurance Companies have no right to rest a case of disputed policy upon the concealment of a disease the existence of which is so easily determined, or upon the bad faith or carelessness of some unpaid medical referee.

* We have, of course, been compelled to reason upon the facts as stated in the original report, but we apprehend that an error has occurred there with reference to the date at which Mr. Ashby signed the declaration, and was examined by Dr. Robertson; these transactions probably took place in April 1844, not in 1843, as stated in the newspaper report: it is hardly conceivable that an Insurance Company would grant a policy in a case where the declaration of health had been made a twelvemonth previously.

## Medical Intelligence.

### NATIONAL ASSOCIATION OF GENERAL PRACTITIONERS.

A LARGE meeting of members of this association was held on Friday last, at the Hanover-square Rooms,—Mr. R. Pennington presiding on the occasion.

A very lengthened report having been read by the Secretaries, setting forth the past operations and future plans of the association, several resolutions were carried, embodying the suggestions it contained, and of which the following are copies:—

"1. That the indefinite postponement of the settlement of the medical question in Parliament, and the consequent unsuccessful issue of the exertions of the committee to obtain a charter of incorporation for the general practitioners, is chiefly to be attributed to the existing colleges having unduly exercised their influence, and thrown unwarrantable obstacles in the way of the Secretary of State for the Home Department; that in consequence an absolute necessity exists for the general practitioners to maintain a permanent collective organization, with an authoritative council to protect their interests. It is, therefore, the opinion of this meeting that the recommendation of the Committee, in the report which has just been read, that the National Association should be established on a more permanent basis, be forthwith adopted, and

that the members of the association, and of the profession generally, be canvassed as to their willingness to co-operate in the formation of a national institute of medicine, surgery, and midwifery, on the plan recommended in the report.

"2. That it is expedient in the meantime that the National Association should maintain its present position, that it may be prepared to act in any emergency that may arise, and be ready to avail itself of every suitable occasion to urge upon the Legislature the pressing necessity, on public grounds, of a revision of the laws affecting the medical profession; and also, as a numerous and important collective body, that it may exercise all the means at its disposal to produce a satisfactory settlement of the complicated question of medical reform.

3. That the Committee of the National Association be requested to continue their functions as a provisional committee, and with power to add to their number, for the purpose of carrying out the two last resolutions; and that future public meetings be called as soon as the committee may be prepared to receive a report from the committee of their proceedings, and of the opinions of the profession on the formation of a National Institute of Medicine, Surgery, and Midwifery.

A vote of thanks was carried to the Apothecaries' Society, for their enlightened policy in raising the qualifications of the general practitioners, and the part which they had taken in the late questions affecting the medical profession.

### THE QUEEN'S COLLEGE, BIRMINGHAM.

The Rev. Dr. Warneford has presented, through William Sands Cox, Esq., the munificent sum of £1000, towards the erection of additional rooms for the students, halls of study, lecture room, and chemical laboratory.

### LONDON HOSPITAL.

According to a return, just published, there were admitted into this hospital during the year—

| | |
|---|---|
| Accidents . . . . . | 2,030 |
| Extra cases . . . . . | 288 |
| Other in-patients . . . . | 1,307 |
| Out-patients . . . . . | 15,485 |
| Total number of patients . | 19,110 |

### PENTONVILLE PRISON.

Mr. Joseph Henry Green has been appointed one of the commissioners for the government of the Pentonville Prison, in the room of the late Duke of Richmond.

### ST. GEORGE'S HOSPITAL.

Dr. H. B. Jones has been elected Physician, and Dr. H. Pitman Assistant-Physician to St. George's Hospital.

### OBITUARY.

April 7th, Rice Wynne, Esq., of Shrewsbury. For fifty years Mr. Wynne practised the medical profession actively, extensively, and successfully. No man could have possessed more completely the unbounded confidence of his patients; and all who sought his aid, ever remained his attached friends. Bequeathed in early life, by his late father, the succession to a noble practice, he retained and extended it to the period of his decease, when he reckoned amongst his patients the wealthiest and noblest families in Salop. In the administration of the public affairs of the town, Mr. Wynne exhibited an extraordinary degree of judgment, energy, and moderation. He was a man whose loss will never cease to be deplored by those who knew his intrinsic worth.

At Carlisle, on the 14th inst., Sir Simon Heward, Knt. Fellow of the Royal College of Surgeons of England, and formerly senior member of the Medical Board at Madras, aged 77. Sir S. Heward was a native of Cumberland, and in early life went to India, where he remained nearly 40 years, during which time he was in many active scenes of service, and had the honour of knighthood conferred upon him for his zealous exertions as chief of the medical staff in Ava.

On the morning of the 22d inst. at his house, in Old Broad Street, in his 46th year, William Eccles, Esq. Surgeon to the Royal Free Hospital.

Of diseased heart and lungs, Thomas Firth, Esq. M.D. M.R.C.S.E. L.A. M.S.A. &c.

## Correspondence.

### ILLEGALITY OF THE PROCEEDINGS OF THE COLLEGE OF SURGEONS.

Sir,

My attention has been drawn by a medical friend to the paragraph extracted from the "*Times*," in your last number, relative to the revocation on the part of the Council of the College of Surgeons, of their censure on the Hunterian orator, on the ground of its *illegality*, an objection which it seems is based upon the opinion of the solicitor to the College. I have also perused your very able article on the question of the Fellowship which has given rise to so much discussion among the members of the College, and having expressed a strong opinion upon that subject, I have been requested by the same friend to put my sentiments into the form of a letter to yourself, which I hope you will do me the honour of inserting.

The council it seems are rather hasty in their proceedings, and do not always take

the precaution of consulting their legal advisers, as the instance alluded to evidences, and however unpalatable it may be to be obliged to make retrogade movements, it appears to me, that the above is not the only instance in which the Council might be compelled to retrace their proceedings if the members are in earnest.

In the book of Ordinances of the College, Sect. 18, under the head of "Rights of Members", is the following bye-law :— "The College will at all times protect and defend every member who may be disturbed in the exercise and enjoyment of the rights, privileges, exemptions, and immunities acquired by him as a member thereof." Now one of the rights and privileges of the members is that of being eligible to the council, the only restriction being that he must confine his professional practice to that of surgery; and any member so confining his practice, was entitled, till lately, to such eligibility. The council, however, thought proper to apply for a charter confining this privilege to a limited number of the members; and further, in administering the same charter, overlooked a number of persons who were actually in the enjoyment of the privilege, and fulfilling its conditions, and who now cannot re-acquire it without additional payment, and even then at the disadvantage of being displaced from their original position, by a number of their juniors; and as the limitation of professional practice to surgery is a course which any of the members might at their option adopt, and residence within reach of the College is the only other qualification required to make the party eligible to the council, a step equally in the power of any member who might choose to take it, it follows that all those members who have been excluded from the Fellowship have their remedy against the College under the clause I have quoted. Let any one of them proceed against the Court of Examiners for the recovery of the fees paid on his admission, as having been obtained under false pretences, or let him claim from the College the protection covenanted in the bye-laws against any infringement of his rights as a member of the College, and he may be confident that a Court of law would compel the College to reinstate him in his former position or refund his diploma fees; and if this precedent were generally acted upon the council would soon be brought to their senses.

Mr. Lawrence is wrong in supposing that any complaint exists as to the manner in which the funds of the College have been *expended*, the only question is, how have they been *obtained?*—I am, sir,

Your obedient servant,

A BARRISTER.

April 13, 1846.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, April 11.*

| Births. | | Deaths. | | *Aver. of 5 yrs.* | |
|---|---|---|---|---|---|
| Males.... | 606 | Males.... | 437 | Males.... | 493 |
| Females . | 594 | Females . | 427 | Females . | 475 |
| | 1200 | | 864 | | 968 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts*, 129. *Population, in* 1841, 1,915,104.)

| | | |
|---|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. | (Pop. 301.326) | 115 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... | (Pop. 366,303) | 188 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ..... | (Pop. 374,759) | 143 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ..... | Pop. 393,247) | 164 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ..... | (Pop. 479,469) | 254 |
| Total ..... | | 864 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Springs; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 864 | 892 | 967 |
| SPECIFIED CAUSES ..... | 863 | 886 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 144 | 162 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 85 | 98 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 159 | 155 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 270 | 271 | 294 |
| 5. Heart and Blood-vessels ..... | 37 | 26 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 70 | 65 | 72 |
| 7. Diseases of the Kidneys, &c. .. | 6 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 12 | 9 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 6 | 6 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 3 | 1 | 2 |
| 11. Old Age..... | 39 | 60 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 32 | 25 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 7 | Convulsions .... | 41 |
| Measles ..... | 18 | | |
| Scarlatina ..... | 11 | Bronchitis ..... | 49 |
| Hooping-cough.. | 47 | Pneumonia..... | 49 |
| Typhus ..... | 33 | Phthisis ..... | 147 |
| | | Dis. of Lungs, &c. | 5 |
| Dropsy..... | 13 | Teething ..... | 7 |
| Sudden deaths .. | 12 | Dis. Stomach, &c. | 4 |
| | | Dis. of Liver, &c. | 5 |
| Hydrocephalus .. | 44 | | |
| Apoplexy..... | 27 | Childbirth ..... | 9 |
| Paralysis..... | 16 | Dis. of Uterus, &c. | 3 |

REMARKS.—The total number of deaths was 28 below the vernal and 104 below the annual average. The deaths from Zymotic diseases, with the exception of hooping-cough, were also below the averages. In the North and South districts, the mortality was above the averages, In the others, it was below.

## METEOROLOGICAL SUMMARY.

Mean Height of Barometer .....29·19
" " Thermometer[a].....45·5
Self-registering do.[b] ..... max. 79·6 min. 28·7
" in the Thames water. — 51· — 47·2

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·54: sum of the daily observations taken at 9 o'clock.

*Meteorological.* — The mean temperature of the week was 4·4° below that of the mean temperature of the month (49·9°). The extreme hebdomadal range in the self-registering thermometer was 50·9°.

## ROYAL COLLEGE OF SURGEONS.

*Members admitted to the Fellowship.*

*April* 16.—John Nottingham, Liverpool—Caleb Burrell Rose, Swaffham, Norfolk—George David Pollock, Sackville Street—Henry Burford Norman, Duchess Street, Portland Place—Hugh Bell, Yarmouth.

*Gentlemen admitted Members.*

FRIDAY, *April* 17.—J. R. Reece.—A. Halley.—J. Brady.—F. F. Allen.—A. M'Mahon.—E. L. West.—D. L. Morgan.—F. G. Broxholm.—A. G. Fenwick.—W. C. Tucker.—C. Broughton.—W. Delpratt.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *April* 16.—George Peskett, Petersfield.—Henry Peskett, Petersfield.—Philip Beal, Portsea.—William Smith, Derby.—Allan Cleland, London.—George Henry King, Southampton.—Charles Mathias.—William James Kite, Ramsbury, Wilts.—William Bowden, Totness.

## NOTICES TO CORRESPONDENTS.

Mr. T. W. King's paper in continuation has been received

"A Querist."—Dr. Percy's former contributions will be found in vol. xxxiv. pp. 147 and 222.

In order to complete the paper of Dr. Hughes, we have been obliged to postpone the communications of Dr Wardell, Dr. Williamson, and Mr. Butler Lane, till the ensuing number.

Mr. Tomes's lectures on Dental Physiology and Surgery will be resumed in our next.

Fiat Justitia.—The insertion of the letter would overwhelm us with replies, and be of no service to any party.

The letters of Dr. Wardell, Mr. Cox, Mr. Robinson, and Mr. Pettigrew, have been referred to the printers.

We are obliged to Dr. Davies (Hertford) for the additional memoranda.

We have to thank Mr. Ross for his letter. This week we have merely given the resolutions.

Mr. F. Adams's letter next week.

*Received.*—Dr. G. Robinson (Newcastle).

ERRATUM.—In the note to Mr. Lane's paper at p. 643, *for* Mr. Cooper, *read* Mr. Hooper.

SYDENHAM SOCIETY.—The Members of the Sydenham Society are respectfully informed that the FOURTH ANNIVERSARY MEETING will be held at the Society's Rooms, 45, Frith Street, Soho, on Friday, the 1st of May, at 8 o'clock, P.M.

By order of the Council,
JAMES RISDON BENNETT, M.D. *Sec.*
45, Frith Street, Soho, April 21, 1846.

SCHOOL of ANATOMY and MEDICINE, adjoining St. George's Hospital.

The SUMMER SESSION will commence on Friday, May 1st.

Medical Jurisprudence — Mr. Ansell and Mr. Warder.
Botany—Dr. Lankester, F.R.S. F.L.S.
actical Chemistry—Mr. Rodgers.

CYCLOPÆDIA of PRACTICAL MEDICINE.—Any Gentleman having a Copy of the above work to dispose of, clean and in good condition, at a moderate price, may hear of a purchaser by addressing a note, stating price, &c. to "A," at Mr. Shaw's Library, 27, Southampton Row, Russell Square.

CHARING-CROSS HOSPITAL MEDICAL SCHOOL, West Strand, London.—The Summer Session of Lectures will commence on Monday, 4th May, 1846.

Botany—Dr. Willshire, Monday, 4th May, at 9 o'clock, A.M.
Forensic Medicine—Dr. Chowne and Dr. Gavin, Tuesday, 5th May, at 3 o'clock, P.M.

HOSPITAL PRACTICE.

Medical or Surgical, Six Months .... £10. 10s.
" " Full Period..... £15. 15s.
Both Medical and Surgical, Full Period £26. 5s.

Further Details and Prospectuses to be had at the Hospital. J. ROBERTSON, *Hon. Sec.*
April 1846.

ROYAL COLLEGE of SURGEONS of ENGLAND.—The council having determined that a Student in Human and Comparative Anatomy shall be appointed in June next, for the period of three years, it is hereby announced that Candidates for such appointment must be members of the college, under 26 years of age, and are required to transmit to the college on or before the 19th of May next, Certificates of character and professional acquirements signed by two members of the medical profession.—Further particulars relating to the appointment may be obtained upon application to the Secretary at the College.

EDMUND BELFOUR, Sec.
April 22d, 1846.

ROYAL COLLEGE of SURGEONS of ENGLAND.—The Collegiate Triennial Prize, for the best Dissertation on "The Anatomy of the Fibres of the Cerebrum, Cerebellum, and Spinal Cord, in the Human Subject; together with the Origins of the Cerebral, Spinal, and Sympathetic Nerves; specially illustrated by the Anatomy of the same parts in the Lower Animals," has been awarded to Mr. Holmes Coote, of Argyll Street, Fellow of the College:—And the Jacksonian Prize, for the best Dissertation on "Tumours of the Uterus and its Appendages: their Structure, Pathology, and Treatment," has been awarded to Mr. Thomas Safford Lee, of Upper Gordon Street, Euston Square, Member of the College.—By Order, EDM. BELFOUR, Sec.

ST. BARTHOLOMEW'S HOSPITAL MEDICAL COLLEGE.

The SUMMER SESSION will commence on Friday, May 1st.

LECTURES.

Botany .....F. J. Farre, M.D. F.L.S.
Midwifery .....E. Rigby, M.D. F.L.S.
Comparative Anatomy..Mr. M'Whinnie.
Forensic Medicine.....W. Baly, M.D.
Practical Chemistry and Natural Philosophy ..Mr. Griffiths.

Four CLINICAL LECTURES will be delivered in each week: those on Medicine by Dr. Roupell and Dr. G. Burrows; those on Surgery by Mr. Lawrence and Mr. Stanley.

COLLEGIATE ESTABLISHMENT.

Students can reside within the Hospital walls, under the Collegiate System, of which the Rules may be obtained from the Warden, Mr. Paget.

Further information may be obtained at the Anatomical Museum, or the Library of the Hospital, or from any of the Medical or Surgical Officers or Lecturers.

The Annual Presentation of the Scholarships' Prizes and other Honours will take place in the Hall of the Hospital, on Wednesday, the 6th of May, at a quarter before 2 o'clock.

Now ready, in 1 vol. 8vo. with an Engraved Plate, price 12s.

SCROFULA; its Nature, its Prevalence, its Causes, and the Principles of Treatment. By BENJAMIN PHILLIPS, F.R.S. Assistant Surgeon to the Westminster Hospital.

2.

MAMMALIA, a Natural History of the. By G. R. WATERHOUSE, Esq. of the British Museum. Published in Monthly Parts, royal 8vo. with Woodcuts and Steel Plates, plain, 2s. 6d.; coloured, 3s. Parts 1 to 7 are out.

London: H. Baillière, Publisher, 219, Regent Street.

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Just published, 8vo. 6s. cloth,

A PRACTICAL TREATISE on INFLAMMATION, ULCERATION, and INDURATION of the NECK of the UTERUS; with Remarks on Leucorrhœa and Prolapsus Uteri as symptoms of this form of Disease. By J. HENRY BENNET, M.D. Licentiate of the Royal College of Physicians, Obstetric Physician to the Western Dispensary, &c. &c.

"The opportunities which our author possessed of investigating uterine disease in Paris were considerable, and he has certainly made the most of them; with the results he makes us acquainted in his book, of which we feel it but fair to speak in terms of considerable praise, as the produce of much industry and accuracy of observation."—BRIT. AND FOR. MED. REV.

"Few works issued from the medical press which are at once original and sound in doctrine; but such, we feel assured, is the admirable treatise now before us. So far as we know and believe, it is the best work on the subject of which it treats."

MONTH. JOURN. OF MED. SCIENCE.

"After the notice we have given, it is unnecessary to express our high opinion of the value of Dr. Bennet's work. It is carefully written, and is evidently the production of a practical physician who has long been familiar with disease."

DUBLIN QUARTERLY JOURNAL.

"The descriptions of disease are throughout clear and concise, the arrangement of the subject is judicious, and the remarks are thoroughly practical, and calculated to improve the treatment of a frequent and troublesome class of diseases."—DUBLIN MEDICAL PRESS.

London: John Churchill, Princes Street, Soho.

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MATICO.—NEW SUPPLY just received from Peru.—The Members of the Medical and Surgical Profession are respectfully informed that the new Styptic—MATICO—may be procured in any quantity, and every form, at Thomas Keating's, Chemist, 79, St. Paul's Church Yard. A Sample of the Plant, together with a copy of the third Edition of "Remarks on the Efficacy of Matico as a Styptic and Astringent; with Cases, Modes of Exhibition, &c. &c. by Thomas Jeffreys, M.D. of Liverpool," may be obtained (postage free) in any part of the Kingdom, by sending a prepaid order, enclosing eighteen penny postage stamps, addressed to "Mr. Keating, 79, St. Paul's Church Yard, London."

*** See Medical Gazette of September 26, 1845, page 962.

ROYAL GERMAN SPA, the Park, Brighton. Under Her Majesty's especial Patronage.—Struve's Pump-Room and Promenades, offering every facility for taking the undermentioned Mineral Waters, in the same perfection as at the natural Springs, will open for the 21st season on the 4th of May.

Struve's Carlsbad, Ems, Vichy, Saltzbrunnen, Saratoga, Homburg, Kissingen, Marienbad, Eger, Spa, Pyrmont, Pullna, Seltzer, Fachingen, &c. are also sold in bottles, and orders for them executed throughout the year, by Struve and Co. Brighton: by their agents, G. Waugh and Co. Chemists to the Queen, 117, Regent Street, London; and by many other respectable houses in London and the provincial towns, where a printed account of the waters, with the highest medical testimonials, may be had gratis.

Owing, doubtless, to their greater power of retaining the more subtle volatile ingredients, Baron Liebig, in his "address to agriculturists," characterises these artificial mineral waters as "even more effective than the natural ones."

Struve and Co. feel it necessary to caution the public against spurious articles.

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TO THE MEDICAL PROFESSION GENERALLY.

No. 11, St. James's Place, St. James's.

THE PROPRIETOR of this ESTABLISHMENT informs the Profession, that they will find placed at their command, at the above address, those invaluable adjuncts to medical treatment, the VAPOUR, DOUCHE, SULPHUR, IODINE, WARM-AIR BATHS, and other REMEDIAL AGENTS.

The above means, administered by a new and improved method, can be employed advantageously in various, and frequently intractable and painful, forms of derangement and disease, and are ESPECIALLY valuable in the most severe forms of Acute and Chronic Rheumatism, Gout, Lumbago, Sciatica, Chronic Derangements of the Liver and Kidneys, Obstinate Cutaneous Affections, Mercurial Cachexia, certain forms of Paralysis, Bronchial Derangements, Local Congestions, Contractions of the Joints, &c.

The temperature of the Vapour Room and Douches can be instantly regulated or varied to any required degree, according to the directions of the medical adviser, whilst the various douches can be applied to any portion of the body.

The proprietor invites Practitioners to test, personally, the advantages derivable from the above modes of treatment, as he is convinced that their value and importance, as curative agents, is as yet comparatively unknown, and not sufficiently appreciated.

N.B.—In cases where the nature or severity of the malady may require it, patients may reside in the establishment, and continue under the care of their medical attendant. Practitioners who may recommend patients without SPECIAL DIRECTIONS for the administration of the treatment, may place the fullest reliance upon the experience, care, and discretion of the male and female attendants.

Printed at the Office of Wilson and Ogilvy, 57, Skinner Street, Snowhill, in the Parish of St. Sepulchre, in the City of London, by ELIEZER CHATER WILSON, 57, Skinner Street aforesaid, Printer; and published at 39, Paternoster Row, in the Parish of St. Gregory, in the said City, by WILLIAM LONGMAN, of 36, Hyde Park Square, in the County of Middlesex, Bookseller.

**Friday, April 24, 1846.**

## Lectures.

A COURSE OF

# LECTURES ON DENTAL PHYSIOLOGY AND SURGERY,

*Delivered at the Middlesex Hospital School.*

By John Tomes, Esq.

Surgeon-Dentist to the Hospital.

### Lecture VII.

Abnormal conditions of the first dentition.—*Diseases of the gums before and during the eruption of the milk teeth—(Inflammation and induration)—Diseases of the tissues of the milk teeth—(Caries and Necrosis)—Diseases of the gums after the eruption of the milk teeth—Disease of the alveolar periosteum of the milk teeth.*

Abnormal conditions of the second dentition.—*Irregularity in the time of eruption of the permanent teeth.*

Gentlemen,—Since I have directed my attention to the diseases of the teeth, it has been my habit to make notes of the most instructive cases that have come under my notice, and also of those that have been related by authors. In order to accomplish the purpose I have had in view—namely, to gain useful illustrations of the various dental maladies—I arranged the subject into divisions and subdivisions. This classification, which I adopted as convenient for my private use, I shall follow in describing to you the diseases of the teeth. I have therefore prepared a table, the perusal of which will give you the order in which each malady will be discussed. (See next page.)

In accordance with this plan we shall first direct our attention to the abnormal conditions of the teeth and gums during dentition. I have already described to you the symptoms which bring in and accompany the eruption of the milk teeth in the healthy subject: it now remains for me to direct your attention to the process when attended with unfavourable symptoms—to interrupted dentition.

The attendant symptoms are both local and general, but as the latter generally arise out of, and are consequent upon, the local symptoms, we shall take the local condition of the gums as the base of this division of the subject.

*Interrupted dentition* is accompanied by either inflammation or induration of the gums, or by a combination of these conditions.

*Inflammation of the gums.*—The local symptoms are: swelling, heat, redness, and pain, accompanied by excessive tenderness, so that the slightest pressure on the affected part becomes intolerable. These symptoms will vary in degree in different cases, and they will vary relatively also. In one case the swelling will be great, while the heat and redness will be moderate, and *vice versâ*: aphthous ulceration not unfrequently accompanied with swelling and tenderness of the salivary glands. There is a profuse flow of viscid saliva. With these local symptoms we have general disturbance of the system, evinced by a dry hot skin, rapid pulse, hurried respiration, thirst, broken sleep, vitiated and scanty secretions. But, in addition to these local and general symptoms of abnormal dentition, it not unfrequently happens that symptomatic affections arise, and these of no trivial nature. In the excited state of the system during painful dentition, inflammation either acute or chronic may attack any organ of the body. The organs of respiration, and the brain and nervous system, seem to be the most susceptible. Bowel complaints, terminating in mesenteric disease, sometimes supervene.

Many of the symptoms arising from interrupted dentition are of a purely nervous character. These vary, from slight spasmodic twitching of the muscles, to violent convulsions ending in death.

Sudden development of the teeth; the appearance of several teeth at the same time; the evolution of the teeth at an early age: unequal rate of development in the teeth and jaw, so that there is want of sufficient space for the teeth; delicate health of the patient; are enumerated as the causes of abnormal dentition, and the attendant diseases. But pressure produced by the growing tooth upon the inflamed gum, and upon the formative pulp, is considered as the more immediate cause of the active symptoms.

The inflammation of the gums, together with the symptomatic affections, not unfrequently precede some time the appearance of the tooth. The teeth are then said to be breeding. Towards the later stage of the process, the gums, instead of presenting uniform redness, are red only at the base, while that portion which lies over the coming tooth is tense, pale, and bloodless—a condition produced by the pressure of the tooth from within. In this and in the previous stages of the inflammation the epithelium peels off the surface of the affected gum, which bleeds from the slightest touch. If nature is allowed to take her course, the tooth after a while appears through the gum, and the little patient, if no serious coincident disease has established itself, returns to good health.

But instead of dentition proceeding, and nature working her own cure, serious maladies of fatal character may seize and carry

off the patient in a few hours. Inflammation may attack a vital organ, and yield to no treatment. Cerebral symptoms may arise and terminate in coma or in fatal convulsions.

### Abnormal States of the Teeth and Gums.

| | | |
|---|---|---|
| Abnormal conditions during the presence of the milk teeth. | Diseases of the gums before the eruption of the teeth | Inflammation. Induration. |
| | Diseases of the dental tissues | Caries. Necrosis. |
| | Diseases of the gums after the eruption of the teeth | Inflammation. Ulceration. |
| | Diseases of the alveolar periosteum | Inflammation. |
| Abnormal conditions during the presence of the permanent teeth. | Irregularity in the time of eruption of the permanent teeth. | |
| | Irregularity in the position of the permanent teeth. | |
| | Mechanical injuries of the teeth | Fracture. Dislocation. |
| | Mechanical injuries of the alveoli | Fracture. |
| | Diseases of the dental tissues | Caries. Necrosis. Exostosis. Pain. |
| | Diseases of the pulp | Irritation. Inflammation. Ulceration. Granulation. |
| | Diseases of the alveolar periosteum | Inflammation. Suppuration. Hemorrhage. |
| | Diseases of the alveoli | Inflammation. Necrosis. Absorption. |
| | Diseases of the gums | Inflammation. Recedence. Tumors. |
| | Tartar. | |

The primary or predisposing cause of the alarming diseases I have enumerated as connected with dentition, is often overlooked, from the very intensity of the diseases themselves, and attention is alone directed to their relief, without a thought being given to the predisposing cause; not that any local treatment addressed to the gums would remove inflammation affecting a distant organ arising as a consequence of irritation existing in the gums. Yet, if that irritation be removed, the chances of recovery will be greatly enhanced.

It will be your duty then, whenever called upon to treat a child suffering from disease, whatever be the nature of the disease (unless of specific character, such as small-pox), to inquire into the state of dentition, and if you find the gums inflamed, and a tooth presenting, to freely lance the imposed gum. It is useless to lance the gum superficially; it should be divided down to the surface of the pressing tooth, even if this be at some little depth in the gum. Having relieved the state of the gum, attention must be directed to the coincident malady.

It has been supposed by some writers that lancing the gums before a tooth is ready come through retards rather than facilitates the future passage of the tooth. They consider that the cicatrix formed after the lancing is less readily absorbed than the gum would have been had there been no cicatrix, and therefore that an obstacle is created by the operations; unless, indeed, the tooth is so near the surface that it passes through the wound before the gum can heal. The assumption is not borne out by observation; cicatrices are more readily absorbed than natural tissues. You have many opportunities of observing how prone a cicatrix is to absorb, in the frequent occurrence of ulcers on cicatrices of the leg, and other parts of the body.

#### *Induration of the gums.*

Instead of the gum becoming removed for the passage of the teeth, we sometimes find it becomes indurated and thickened. In this condition there is no considerable tenderness, scarcely any increase in the quantity of saliva. The gum on inspection is elevated, but not more florid than the neighbouring parts. Indeed, the local symptoms are slight, and often overlooked.

In connection with interrupted dentition accompanied with these local conditions, the general symptoms are not less severe than where there is inflammation of the gums. The skin is hot and dry, the appe-

tite fails: the child will often refuse the breast for an unusually long period. This state of health is often attributed to the presence of worms, and medicines are given to effect their expulsion.

In induration as in inflammation of the gums, either inflammatory or spasmodic diseases may arise and require active treatment, the remedies being such as the character of the disorder may indicate; but in no instance must we neglect to make free incisions in the gums over the teeth that are bound down by the hardened tissue.

Where the symptomatic disease is of a purely spasmodic character, this simple operation will sometimes produce instant remission of the symptoms, but when the disorder has advanced to alteration of structure, the most we can expect will be a remission in the intensity of the symptoms, and a state of system more favourable for the action of remedies useful in the treatment of the disease.

Dr. Ashburner has written a very valuable work on dentition, and its coincident disorders, in which a great number of cases are given, where lancing the gums produced instant relief to serious and distressing spasmodic diseases. The two following cases are taken from his work.

"I attended a fine boy from the cutting of its first incisor tooth to the completion of its dentition of twenty teeth. It was the last child of a family in which all the children had afforded examples of abnormal dentition. This boy was of a nervous temperament, with black hair and eyes: every tooth had come forward with a want of biliary secretion. Nothing could exceed the care observed by the mother as to the diet of this infant; yet, whenever an effort at developing a tooth took place, she was always aware, from the deficiency of bile in the evacuations, that he was to have slight fever, sometimes with a catarrh and cough, always with twitchings of the face and fingers, and starting and moaning during sleep, and a catch in fetching a deep sigh. With the appearance of the four first molars the spasms were more severe. The thumb of the right hand was thrust into the palm, and the fingers clenched upon it; the toes were drawn down, the face was distorted. These spasms relaxed and reappeared. I found on these occasions that the tooth was always anormal in its progress; seldom observing its turn, and never its time. The gum lancet freely used always cured these spasms. On the last occasion I was sent for in great haste, for the spasms had continued into an epileptic fit, from which I speedily and effectually relieved my little patient, by cutting through the capsule of the coming tooth."

"I was called one evening to the child of a lady in Regent Street. It was a fine girl of fourteen months old, The head was large; dark hair, dark eyes. It was in a tub of warm water, quite insensible, passing from a state of epilepsy into tetanus. Its eyes were not influenced by light; the pupils remained dilated. The anterior molaris of the left side, in the upper jaw, was ready to come through. I cut freely through its capsule with my gum lancet; in two minutes the child was on its knees in the water, playing with the handle of the tub, in excellent spirits. This child had been twitching the angle of its mouth, and had had its right arm spasmodically affected during the day."

Mr. Bell, in speaking of the diseases consequent upon the irritation produced by abnormal first dentition, and in reference to the frequent occurrence of diseases of the brain from this cause, makes the following remarks:—

"The brain, too, is frequently affected; the pupils of the eyes are permanently expanded, the head is continually to and fro, with an uneasy restless motion, accompanied with an increased moaning. Spasm of the voluntary muscles frequently succeeds, and convulsions at length recur at intervals, with increasing violence; which, unless immediate relief be obtained, too often terminate at once the little patient's sufferings and existence. The symptoms which I have here described as connected with a morbid state of the brain, often arising either from the overcharged condition of the vessels, or from actual effusion, do not always terminate fatally; but even where they are for the time relieved, and their acute form subdued, the occurrence of confirmed hydrocephalus is amongst the most common results of such affections. It appears, indeed, that the irritation has not been sufficiently attended to as the origin of this disease. Were this view of its cause more generally taken, it is, I think, probable that it may, in many cases, be arrested in its earlier stages, and its dreadful consequences—death, or a state of idiotcy far worse than death—be frequently prevented."

*Caries and necrosis of the temporary teeth.*

The temporary teeth are subject to the death and decomposition of a portion, constituting what is generally called caries, and to death of the whole tooth, constituting necrosis of the tooth. The former of these affections is generally common to the temporary and permanent teeth, and will be considered when we come to the diseases of the permanent teeth. But necrosis is more frequently found in the milk teeth, and moreover presents some peculiarities.

Dental necrosis in the young subject is usually consequent upon the destruction of

the whole or part of the crown by caries. The pulp, from the exposure, is destroyed; after which, all vitality is lost in the fangs. Supposing absorption of the roots to have commenced, the process is arrested, the remaining portion of the fangs becomes discoloured, and the enclosing alveolus becomes absorbed. The gum then inflames and ulcerates, and the fangs of the teeth are exposed on the surface, from which, in a little time, they become detached. In the process, the tooth itself is not unfrequently borne up towards the surface, and is found lying across the gum, with the fangs directed towards the cheek, which is not uncommonly ulcerated by the rough points irritating the mucous membrane.

It does not always happen that the inflammation produced by the necrosed tooth is slight in degree, or limited in its effects; on the contrary, the neighbouring teeth and alveoli may partake of the diseased action, and suffer necrosis; and further, you will find in the separated sequestrum the rudiments of the permanent.

*Treatment.* — The dead tooth or teeth should be removed, and the inflammation combatted by general treatment. If the ulcer in the cheek present an unhealthy appearance, the surface should be touched once or twice with sulphate of copper. If the alveoli are necrosed, a time must be given for the dead bone to be separated from the living: but so soon as this is effected, the sequestrum should be removed. During the time the above bone remains in the mouth a wash should be used, composed of chloride of lime and water, as a means of rendering the dead bone less offensive, and keeping the parts clean.

### *Diseases of the gums during the presence of the temporary teeth.*

At this period of life the gums are liable to be attacked with inflammation and other diseases common to childhood and after life. These require no special notice in this division of our subject, but will come under our notice when treating of the diseases of the gums generally.

The gums are, however, during childhood subject to a peculiar form of ulceration closely allied to that form of disease which, occurring in the adult in any other situation than the mouth, is called phagedena, and which, when seated in the mouth, is by most writers called cancrum oris. The disease commences on the free edge of the gum with inflammation, which is marked by swelling, vascularity, and lividity of surface. Ulceration then commences on the edge of the gum, and quickly extends towards the alveolus, destroying in its course the texture involved. The disease, in addition to extending towards the alveoli, proceeds to the gums of the neighbouring teeth, but in these, as in those first attacked, the free edges of the gums are the parts first destroyed. The most common seat of the disease at its commencement is the edge of the gum about the canine and first molar. The gums of the lower jaw seem more liable to the disease than those of the upper maxilla.

In the cases which have come under my observation the ulceration has commenced on the external edge of the gums, but has not, with one exception, passed to the gums between the teeth, and thence to the inner gums. This may, however, have arisen from the cases being treated early, or being in themselves less severe than those occurring to other practitioners. The surface of the cheek lying in contact with the ulcerated surface of the gums becomes involved in a similar disease, so that the surfaces of the two ulcers lie in contact. The parts immediately surrounding the ulceration are thickened, indurated, and of a deep red colour. The diseased action, in addition to extending over the surface of the gum, also affects in an almost equal degree the periosteal connection between the root of the teeth and the alveolus. The teeth become loose, and seem in their loose state to cause by irritation continuance of the disease. The teeth, instead of becoming merely loose in severe cases, are necrosed, blacken, and produce, by their presence as foreign bodies, an increase of the inflammatory action. The surface of the ulcer is so peculiar in character as to be immediately recognised; it is of a pale yellow or straw colour, with here and there a red point, slightly raised above the general surface, which bleeds on the slightest touch. The disease in its progress quickly destroys the gum, and leaves exposed the alveolus, which then becomes necrosed. The ulceration, if unchecked by treatment, in unfavourable cases, extends, destroying in its course the texture of the mouth, till some large vessel is laid open, or the patient sinks from general exhaustion.

The causes of this destructive form of ulceration are for the most part constitutional. It is only seen in children of strumous habit, who from some cause are in a low and debilitated condition, and is most commonly found in those who have resided in damp and badly ventilated situations, and have been badly fed. When I held the office of dentist to King's College Hospital, a number of cases of this disease presented themselves, almost all of which came from the immediate neighbourhood of Clare Market. At this hospital I have seen but three or four cases during the past two years, and these were slight only.

The peculiar form of ulceration which I have described has occurred to fearful extent

in the children of the Asylum of Philadelphia. A memoir was published, by Dr. Coates, in "The North American Medical and Surgical," for July 1826, in which is an excellent account of a number of cases terminating fatally.

But in these cases two forms of disease are described under one name, *cancrum oris*. The one, similar to that I have described to you as commencing in ulceration, about the edges of the gums; another, in which some part of the cheeks or fauces is attacked with sphacelus, succeeded by ulceration. The latter disease does not affect the gums, though it seems from Dr. Coates's paper to supervene in some cases upon ulceration of the gums. This disease, affecting other parts of the mouth than the gums, does not properly belong to our subject, and though in its nature allied to the corroding ulceration attacking the gums, will, I think, be found to possess points of dissimilarity sufficient to establish it as a distinct disease. For this reason I have not adopted the name of cancrum oris to the phagadenic ulceration of the gums.

*Treatment.*—To successfully combat the ulceration, both local and constitutional treatment must be adopted. The state of the bowels must be first attended to; a mild aperient should be given in the form of grey powder — this medicine answering the double purpose of stimulating the liver, which is generally defective in its secretions, and expelling any accumulation of acrid matter from the bowels. Tonics and liberal diet should then be administered. The local treatment must be similar to that adopted in ulceration of specific character, ulceration which increases by the acridity of its own secretion; that is, the surface should be perfectly destroyed by some agent which, by its chemical action, will decompose both the secretion and the surface of the sore. Nitrate of silver, or potassa fusa, or either of the mineral acids, will effect the purpose, but nitrate of silver is perhaps the preferable agent. In applying the remedy the surface should be first wiped dry, and then with a stick of caustic the ulcerated part rubbed over, taking care that no point remains untouched. The immediate effect of the nitrate of silver will be marked by a change of colour of the surface to which it has been applied.

In no case under my own observation has this treatment failed. The superficial slough, caused by the nitrate of silver, has in the course of two or three days separated, leaving a healthy ulcer, which has readily healed.

Supposing any teeth have been rendered loose by the disease they must be removed, otherwise they will keep up the action. The American author, in the cases to which I have alluded, used with success sulphate of copper as a local application.

The copper in my hands has not been equally successful. After using it I have been obliged to have recourse to the nitrate of silver. In a few obstinate cases, where the patient has been in wretched general health from want of proper or sufficient food, I have found it necessary to repeat the application of caustic twice or even three times, at intervals of six or eight days, before the ulcer assumed a healthy surface.

My friend Dr. West tells me that he has succeeded in curing the disease by the administration of chloride of potassa in small doses, repeated every four hours, and without having recourse to any local treatment.*

### *Disease of the alveolar periosteum of the temporary teeth.*

The alveolar periosteum, which connects the fang of the tooth to the enclosing alveolus, is subject to diseased action. It may become generally inflamed, or a certain portion only may be affected. The cause which most frequently produces disease in this situation is caries, or necrosis of the tooth; in which case the inflammation will at first be confined to the part surrounding the apex of the root, from which the membrane becomes separated. Pus is excreted from that surface, which is no longer adherent to the fang, so that the apex of the latter is placed in an abscess. Inflammation of the alveolar periosteum is recognised by pain in the tooth, extending to the jaw; slight elongation of the tooth, which gives pain when pressed upon; swelling, with heat and redness in the gum over the alveolus containing the tooth. If allowed to take its course the external swelling will increase, and the cheek will become more or less swollen. The skin hot and dry. A portion of the alveolus, opposite the external gum, will become absorbed, and allow the pus to advance towards the surface. In the course of a few days the swelling in the gum will become soft; the surface at some point will give way, and pus will escape. The symptoms will then subside, leaving a small fistulous opening, surrounded with two or three granulations communicating with the interior of the abscess; and the tooth will give no further trouble until, from some accidental cause, the orifice through which the discharge has taken place has closed, when we shall again have all the symptoms of alveolar inflammation, terminating in abscess.

*Treatment.*—The tooth which has induced

* This treatment was, I believe, first made generally known to the profession by Dr. Heat, in a paper published in the Medico-Chirurgical Transactions of last year.

the malady should be immediately extracted, and the disease will be cut short. If pus has formed, the gum should be freely lanced, in order to facilitate the escape, though if the tooth be extracted this will be unnecessary, unless we find it between the gum and the surface of the alveolus.

*Abnormal second dentition — irregularity in the time of the eruption of the permanent teeth.*

Two separate actions are concerned in the renewal of the teeth; one action, the removal of the temporary teeth; the other, the evolution of the permanent.

For the regular appearance of the second teeth it is necessary that each of these should proceed uninterruptedly, and that the jaws should have attained the requisite size. These conditions, from causes which it is not always easy to estimate, are not in all cases fulfilled.

The fangs of the temporary teeth in some cases remain unabsorbed, and the teeth keep their position to the exclusion of those that should take their place. This cause of irregularity in time most frequently occurs in the milk molars than to either of the anterior teeth. During the last two years seven cases have come under my notice, in which, at the age of from 15 to 27 years, one or more of the bicuspides were absent, and their predecessors, the milk molars, present. The patients have come to the hospital from suffering pain in the temporary teeth. On removing the temporary, the succeeding permanent teeth were seen coming forward.

The reason for assuming that in these cases the permanent were kept back by the temporary teeth is, that the crown of the former is received between the fangs of the latter, and therefore cannot come through without the previous removal of the superimposed tooth. Again, irregularity in time seldom occurs to the same degree in any of the more anterior teeth, which, when the temporary teeth remain after the usual time for their ejection, appear either anterior or posterior to them.

Another cause of irregularity in the time of eruption of the adult teeth, arises from insufficient space in the jaw, from defective growth. The canine teeth are retarded from this cause more frequently than any other teeth, arising from the canine being last to be cut, and the space being occupied by the incissors and bicuspides which have been previously evolved. I have seen several specimens of this—one on the table—in which the canine tooth, from want of space, has been developed, but remained deep in the jaw, completely imbedded in bone, the crown resting between the fangs of the lateral incisor and the first bicuspiedes. Nature, in these cases, has fitted the teeth for their peculiar position by developing an extremely short fang.

The symptoms produced by interruption to the evolution of the permanent teeth, which are preceded by temporary teeth, are seldom severe; and, indeed, indications are not unfrequently wholly absent. When they are present pain is felt about the obstructing temporary tooth, extending to the angle of the jaw. The pain is far from constant, coming on and going off at uncertain intervals. The gum round the tooth is generally slightly inflamed. The indications subside on the removal of the obstructing tooth.

The wisdom teeth are liable to great irregularity in the time of their appearance, which arises from want of space in the jaw, or from irregularity in the position in which the development has taken place. Varied and distressing symptoms arise from obstruction to the development of these teeth; but as these obstructions mostly arise from irregularity in the position of the teeth, we shall postpone entering into the subject until we come to the consideration or the irregularities in the position of the permanent teeth.

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### IMPUNITY WITH WHICH CAUSTICS MAY GENERALLY BE APPLIED.

If I am not very much mistaken, there is less chance of any ill consequences from the application of caustic, than from even a small operation with a knife. For example, you very seldom find an attack of erysipelas follow the use of caustic; certainly much less frequently than after the use of the knife. Again, the slightest wound in certain constitutions will be followed by diffuse inflammation of the cellular membrane, terminating in gangrene. But I do not recollect that I ever saw the same thing happen after the use of caustic.—*Sir B. Brodie's Lectures on Pathology and Surgery.*

*** We think that exceptions to this rule will occur to the minds of most surgeons. We have seen very extensive sloughing produced by the moderate application of caustic in a person of bad constitution; and it has been proved, in too many painful instances, that the most dangerous consequences of punctures received in dissection have been due to the too free application of the nitrate of silver to the wounded spot, or in the course of the inflamed absorbents. —Ed. Gaz.

## Original Communications.

### ON THE USE OF THE OXIDE OF SILVER.

By Butler Lane, M.R.C.S.
Ewell, Surrey.

[Concluded from p. 644.]

I shall now refer to the special action of the oxide of silver in gastric affections; and, in the wide class coming under the designation of dyspepsia, we shall often find it a simple and efficacious medicament. One of the commonest forms of dyspepsia is constituted by a state of chronic congestion of the gastric mucous membrane, indicated by tenderness and uneasiness in the epigastrinm, frequent nausea, loss of appetite, and a want of digestive power, inconvenience being experienced after eating, especially if the strict rule of diet have been deviated from. The tongue may be clean or somewhat furred, and the papillæ are generally preternaturally red and turgid. There is usually some degree of thirst, and the bowels are somewhat costive. In these cases the oxide is an effectual remedy, in conjunction with aperients and alteratives as far as may be required. These are doubtless the cases respecting which Dr Golding Bird remarks, that "in those forms of irritable stomach, especially where an erythemic state of mucous membrane existed, the oxide of silver has been of great service."

Gastralgia, in its pathological nature, is but a violent form of the irritative dyspepsia in question, the morbid state of mucous membrane being connected with a very sensitive and irritable condition of the sentient nerves of the viscus, which may be evinced under various circumstances, and even in the opposed conditions of repletion and vacuity. In these cases the oxide of silver will often be found highly efficacious. I remember one case of cure, where the pain would recur once or twice a day with such intensity as to compel the person to lie down immediately wherever he might be, continuing sometimes for one or two hours; other remedies had previously failed in affording relief.

When much tendency to vomit has existed, I have not found the use of the oxide of silver beneficial. Neither have I found it useful in pure atonic dyspepsia, where the tongue was pale, flabby, and indented,—in which the experience of Dr. Golding Bird coincides; and this accords with my opinion as to the action of the remedy being truly sedative.

In cases of simple pyrosis much advantage is obtainable from the employment of the oxide of silver. The free action of the bowels has to be maintained, and the secretion of the liver regulated. Dr. Golding Bird says, with respect to pyrosis, "it requires a few days' preliminary treatment to reduce the gastritic condition, and then the oxide of silver acts well." Whether pyrosis assume a marked acid or alkaline character, I have generally found it amenable to the influence of the medicine. The combination of mild alkaline aperients with half-grain doses of the oxide twice a day, in the form of a pill, will, in the majority of cases, readily counteract the acid form of disease. In the neutral and alkaline varietes of pyrosis, tonics are in most instances desirable adjuncts to the oxide of silver; but where there is deep-seated pain, the preliminary application of leeches, and the use of counter-irritation, are requisite. I am, however, inclined to believe, that many of these cases do not originate in the stomach, as generally supposed, but in the pancreas. I have had but little experience in cases of ropy or glairy discharge from the stomach. In one case, however, which came under treatment, the oxide certainly exerted some beneficial influence. Alterative doses of henbane, ipecacuanha, and blue pill, with mild salines, were resorted to in the first instance, and the cure was completed under the administration of the silver simultaneously with vegetable tonics.

It is, however, to the peculiar medicinal influence of the oxide of silver on the uterine system that I am most particularly desirous of directing attention; and I believe, in this respect, that I may fairly claim the merit of introducing a new and valuable remedy for many female complaints, and one which had long been a desideratum. The oxide of silver demonstrates a specific power in controlling certain

states of uterine excitement; and whether such excitement be evinced merely locally by undue sensibility or secretion, or sympathetically by pain or constitutional irritation, the sedative influence of the remedy is unfailing. Of course any primary constitutional derangement, whether plethoric or anæmic, has to be counteracted by appropriate treatment; and in some congestive states of the uterus, as of other organs, a mere sedative action not being the chief indication, the oxide of silver therefore may not be available.

I need adduce no instances of the efficacy of the oxide of silver in the common forms of menorrhagia. Suffice it to say, that, with the precautions above alluded to, I am almost invariably able to resort to the employment of the remedy with confidence and satisfaction. I shall therefore proceed to give the brief relation of a few of the more peculiar cases, which will serve to illustrate and define the medicinal power of the oxide better than any abstract consideration of the subject.

Mrs. M., æt. 50, afflicted with ovarian tumor, apparently of malignant character, which encroached considerably on the vaginal cavity, had been suffering for ten days with much clotted sanguineous uterine discharge. This had been the case on a previous occasion, though menstruation had ceased to occur regularly for some years. The abdomen was very tender, and frequent pain in the back, with much aching and dragging sensation, was complained of. The bowels were much relaxed. A very few doses of the oxide served to restrain the hæmorrhagic discharge and diarrhœa, and also gave some relief to the abdominal tenderness.

Mrs. R., æt. 48, complained of violent pain in the lumbar region, and also over the abdomen, with considerable tenderness. There was diarrhœa of serous character, the bowels acting frequently, and with spasmodic violence. There was nausea and much acid taste in the mouth, but the tongue was clean: considerable febrile action. Profuse hæmorrhagic uterine discharge, in coagula, had existed for a week. Subsequently to the birth of her last child, now three years old, much uterine hæmorrhage took place for about a month; but since then there had been no appearance of uterine secretion until the present occurrence. A slight alkaline mixture was prescribed, with pills of the oxide of silver, and extract of hyoscyamus. Six of the pills sufficed to arrest the hæmorrhage and the diarrhœa; much debility, loss of appetite, and tendency to spasmodic pain, however, persisted, and required the appliance of further appropriate treatment.

Mrs. S., æt. 29, applied to me in consequence of menorrhagia. It was easily controlled by the administration of half-grain doses of oxide of silver every six hours; and she was much pleased and surprised, as she afterwards informed me, to find that a leucorrhœa of twelve months' previous duration had also disappeared.

A young woman, a month after the birth of her first child, complained of a constant pale uterine discharge, which rendered her extremely languid and incapable of exertion, and also a disrelish for food. She took half grain doses of the oxide of silver, combined with three grains of extract of gentian, three times a day, which quickly relieved her. This case occurred in the practice of Mr. Allen, of Epsom, who, I believe, has had several of the same character.

Mrs. P., æt. 35, had been confined four months previously with her fifth child, when she applied to me in consequence of a constant glairy discharge, with frequent gushes of greenish watery fluid, very offensive in smell; there was much pain in the back, and bearing down sensation, and she was much debilitated. Bowels open; tongue clean. A slight aperient was given, followed by half-grain doses of the oxide every six hours. A week's treatment sufficed to effect a cure.

Mrs. R., æt. 30, suffered with constant uterine sanguineous discharge for three months after the birth of her fourth child. She complained of great exhaustion and much pain in the back. The pulse was weak, and the countenance pallid. A week's administration of the silver, half a grain thrice a day, arrested the discharge, and abated all the concomitant symptoms.

In several cases of constitutional irritation connected with pregnancy, the oxide of silver has proved very beneficial; and I have often found it an useful adjunct in the treatment of dys-

menorrhœa, of which the following instance affords an example:—

Mrs. R., æt. 30, had invariably experienced much inconvenience at the menstrual period, ever since a miscarriage which occurred three years since. Pain and weight in the back; bearing-down sensation, with occasional acute lancinating pains in the region of the uterus, have constituted the chief local symptoms. The menstrual fluid has been scanty, and presented somewhat a fibrinous character. She has also suffered with nausea, disrelish for food, and general languor. The bowels always costive. Half a grain of the oxide, combined with four grains of inspissated ox-gall (Hooper's preparation), was administered twice daily the week previously, and during the catamenial period. Some pain and inconvenience were experienced at the commencement of menstruation, which, however, quickly subsided, and the dreaded time passed over with a degree of ease and comfort to which the patient had for years been a stranger. The flow was somewhat more copious, and the alvine evacuations became more regular and natural, without any aid from cathartic medicines.

In many cases of complicated disease where uterine symptoms were prominent, I have often found the oxide of silver most useful in the treatment. In one instance, where menorrhagia had been excessive previous to my seeing the patient, and where a great degree of sympathetic irritation existed, the oxide seemed not merely to prevent the recurrence of the abnormal uterine discharge, but even to suspend the occurrence of the menstrual period, until such time when the system had recovered itself from its exhaustion and the excessive constitutional irritation had subsided; then the function was resumed in a normal manner.

The administration of the oxide of silver is very beneficial in those cases of left lateral pain which seem peculiarly connected with the state of the uterine functions; I have not even found the remedy to be contraindicated even in cases of amenorrhœa or chlorosis, though a combination of other treatment is very essential. In the cases of epigastric pain so frequently met with in the persons of young females, however, the oxide is of no avail.

With respect to the utility of the oxide of silver in cases of organic uterine disease, the testimony of the subjoined communications will afford a stronger recommendation than any I can adduce from my limited experience, and at the same time they will bear me me out in my opinion of the general influence of silver over morbid uterine states.

Dr. Lever has obligingly furnished me with the following statement:—

"On consulting my notes as to the employment of the oxide of silver, I find that I have at once had recourse to it in uterine affections, where the discharge is mucous or sanguineous, and with great advantage where the constitution is enfeebled by malignant disease, whether of scirrhous or encephaloid character; in the majority of cases it has acted well; it has allayed irritability, diminished pain, and maintained the strength against the ravages of this fearful disease. In purulent discharges I have found it necessary to reduce local congestion (if that exist) by the topical abstraction of blood, and then I exhibit the oxide, but if there be no hyperæmia, I at once give the remedy. My opinion, based as it is on numerous trials of this medicine, is most favourable, and I never fail to speak of it in high terms both in public and private."

Dr. Frederic Bird, who has employed the oxide of silver extensively since its first introduction, has kindly communicated to me the following abstract of the results of his experience:—

"Since the period when the oxide of silver was first introduced into practice by yourself, I have constantly prescribed it in certain diseases incident to female life with much advantage. I have found that the most favourable conditions for its successful exhibition were met with in those maladies, which, although partaking of and probably originating in an asthenic state, were yet associated with some degree of irritation, local or general; the first effect of the remedy being to allay such irritation, and next to exert a tonic action of somewhat peculiar character. In certain forms of uterine hæmorrhage it undoubtedly exerts a powerful remedial effect, which might, perhaps, without incorrectness, be termed specific. I have met with many examples of passive menorrhagia, occurring in females of enfeebled or depressed

powers, in whom the direct action of the oxide of silver was very clearly demonstrated; the cessation of the hæmorrhage often succeeding to the employment of a few grains of the remedy. Its general efficiency in cases of active menorrhagia has been evinced by a large number of cases occurring in dispensary practice; to a greater extent, indeed, than could have been anticipated amongst a class of patients with whom remedies can scarcely ever be fairly tried, or the results of treatment ascertained; whilst in those in a better position in society, where the medicine could be fully and certainly tried, I have found it always useful. In the form of profuse menstruation, which assumes a more important and dangerous character, commonly occurring at a later period of life, and associated with a congested and morbidly sensitive state of the uterus, a tumid cervix and a patulous os, and where, in short, there exists much general uterine excitement, the oxide of silver, either without other remedial means, or, in the severer cases, preceded by small local depletions, has acted in many instances with much certainty. In the large class of cases in which uterine hæmorrhage occurs as the result of organic lesion, the oxide still seems to exert a very useful agency; in very many cases restraining and in others completely arresting the symptomatic flow of blood." Its action under such conditions would rather appear to consist in a sedative influence, by which the arterial action of the part becomes lessened and the congestion removed than by any retardation or arrest of structural change. In the several forms of uterine tumor, in which hæmorrhage seldom fails to occur as a symptom, as well as in the advanced and ulcerated stages of carcinoma uteri, it has in a large proportion of cases been successful in restraining the loss of blood.

"Its action in cases of leucorrhœal discharges is perhaps not so satisfactory, the oxide, in common with many other remedies, failing to produce any permanent benefit. If, however, its exhibition be limited to those cases in which an irritation of the uterus coexists, and in which the leucorrhœal discharge proceeds from that organ, and not from the vaginal walls, it will in the majority of instances be adequate to the removal of the leucorrhœa; and the frequent failure of the remedy, indiscriminately employed in that disease, is probably attributable to the fact, that uterine leucorrhœa, wholly unassociated with the vaginal form, is not very commonly met with.

"I may remark, that the dose of the oxide of silver has been varied from half a grain to two or sometimes three grains; the smaller dose has usually been sufficient, and it has been only in those cases in which the remedy has been long employed that increasing doses have been had recourse to. The usual combination has been the extract of conium. In no case have I observed any cutaneous discolouration to result from the use of this drug, although in many instances its exhibition extended over several months."

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### PRELIMINARY EDUCATION.

It is only reviewers and critics—men compelled by their vocation to read (or to try to read) all that issues from the medical press,—who can truly know the full extent of the deficiencies of the profession as to mental cultivation. They, in the course of even a few months, see enough to convince them, that however desirable, just, and necessary, Medical Reform—taken in its ordinary meaning—may be,—there are other things more necessary still, to emancipate and elevate and dignify the profession;—and these things are to be found only in a GOOD PRELIMINARY EDUCATION. It is vain to bestow on us titles and rank, to enrol us in colleges, to give us representative rights and corporate equality, to throw around us the protection of penal statutes, and to compel the public to yield us our financial dues,—if our education leave us below the level of the literate classes of our time. If the feelings, tastes, and intellectual faculties be imperfectly cultivated, if the reasoning powers be undisciplined, if men neither know how to observe facts, nor to deduce inferences from them when observed, if they prove by the books which they write, that they know neither their own language nor any other—have they any right to expect, that the world should spontaneously accord to them that respect, honour, and consideration, which the Polished, the Learned and the Wise, compel the world to yield to them?"—*British and Foreign Medical Review.*

CASE IN WHICH THE

## RECTUM TERMINATED IN THE URETHRA,

THE CHILD LIVING UPWARDS OF EIGHT MONTHS.

By Joseph Williamson, M.D.
Aberdeen.

The interest with which I have referred to the few cases on record at all similar to the following, has induced me to offer the particulars of it for insertion in the pages of the Medical Gazette.

Mrs M'——, a remarkably healthy woman, and whose husband is of equally good constitution, was delivered after a natural labour of her second child, a boy, on the forenoon of the 5th of June last. The infant was supposed to be in every respect healthy, and naturally formed. During the succeeding night, he sucked greedily, but appeared to suffer much uneasiness, crying a good deal, and vomiting frequently. His mother was led to believe that he passed flatus from his bowels, but there was no discharge of meconium. In the forenoon of the next day, and just before I was called, he was again carefully examined by the midwife, who then discovered for the first time that the anus was imperforate, and immediately pointed out the malformation to Mr. M'——, as the cause of his child's uneasiness.

On examination the eye could detect no indication whatever of the presence of an anus. Its usual situation was covered by smooth skin, of natural colour, continued from the perineum over the buttocks. The raphe of the perineum was unusually prominent, but the penis, scrotum, and testicles, presented no unnatural appearance. The finger being placed on the point where the anus should have been situated, could be readily pushed up to some distance in the natural direction of the rectum, carrying the integuments before it, and conveying the idea that nothing but skin and cellular membrane intervened between the surface and the intestine. There was, however, no projection of this part, even when he cried, nor was it at all discoloured, as has been observed to be the case when the cul de sac of the gut is at no great distance. Urine had been naturally and freely passed, and there was no distension of the abdomen; but the vomiting was frequent, and he was evidently suffering much.

Having obtained the advice and assistance of my friend Dr. Kerr, an incision was made at the point referred to, and carried upwards for nearly two inches along the sacrum. The wound was also partly enlarged by breaking down cellular membrane with the finger, a mode of proceeding which required no improper force. Through this incision the intestine was not reached, nor did the finger discover in it any fulness which could justify us in carrying it higher up. Instead of doing so at that time, it was resolved to wait till the intestines should, in consequence of the obstruction, become distended, when we hoped to be able to discover the position of the rectum. A portion of lint was left in the wound. This was 24 hours after his birth.

On the following day (7th June), he was, as might be expected, still more uneasy, and the milk had been constantly vomited, mixed with some greenish or yellowish matter. No distension of the abdomen had taken place, and the exploration of the wound was consequently as unsatisfactory as that of the preceding day.

On the fourth day after birth (8th June,) he seemed to suffer still more severely, and the abdomen had begun to be distended. I was not a little surprised at being informed that some dark-coloured matter had come by the urethra. On examining the penis it was found that the prepuce could not be drawn back over the glans, but I succeeded in pressing from under it a small quantity of what I had no doubt was meconium.

It was now concluded, that some communication existed between the intestinal canal and the bladder, or urethra; that the rectum was probably situated more anteriorly than natural; and that, consequently, our incision had not been carried sufficiently forwards. It was accordingly proposed to pass a probe or director into the urethra, and to be guided by it in a new attempt to find the intestine; the knife being carried of course

more forward, and in the direction of the neck of the bladder. But to this proceeding the father decidedly objected, having now taken up the notion that his child could not survive long, whatever was done for it. In these circumstances, the lint which had been retained in the wound was withdrawn, and the removal of this additional source of irritation appeared to give the little patient much relief.

After this period the abdomen became more distended, and continued more or less so for about a fortnight, there being at the same time much restlessness, crying, and vomiting of yellowish matter. These distressing symptoms, however, which appeared to us at the time to be the preludes of death, were now and then relieved by the passage of flatus, and of small quantities of meconium from the urethra. These discharges gradually increased in quantity, till at last feculent matter was pretty freely voided, when the severe symptoms began to abate.

During the next five months the evacuations were, for the most part, easily obtained, and he became a remarkably strong and healthy child. The only annoying symptom which continued was the vomiting, and this was for a long time so frequent, that the skin of the neck was much excoriated from being so often wetted. Now and then, the alvine discharge was deficient, and crying and other signs of uneasiness occurred, but a small dose of castor oil soon put matters to right again. When three months old he was vaccinated, and at four months he cut the front incisors of the lower jaw. The wound in the perineum had filled up rapidly, and the skin at the part had been retracted by the cicatrix, so as perfectly to resemble a natural anus. The urine, as far as I could ascertain, was generally passed in a full stream, and unmixed with feculent matter, and on several occasions I saw the stools voided without apparently any admixture of urine.

During the month of December he had several attacks of temporary obstruction, both of fæcal and urinary discharges. One of these lasted for two days, and was attended with much crying, vomiting, gurgling in the bowels, and straining. The bladder on this occasion did not become distended, and it is probable that the urine had been voided into the rectum. Relief was immediately obtained on the evacuations returning.

During the month of January there was a gradually increasing difficulty in evacuating the bowels, and stools were seldom procured without evident straining, especially when they were at all consistent. I have seen him at this period, when playing on his mother's knee, suddenly throw himself back, become flushed, and with an evidently painful effort, and sometimes a cry, expel a portion of fæces somewhat thicker than a crow-quill. During this month, also, his general health declined. He was more fretful than formerly, and his *embonpoint* was manifestly lessening; but those unfavourable symptoms seemed to have been, in part at least, occasioned by dentition, for on the appearance of the upper incisors he again began to improve. It is here proper to state that almost the only food he had got during the first six months was his mother's milk, and she informed me that any more solid article of diet, when taken, had generally been vomited. He was now allowed small quantities of farinaceous food, and occasionally a few spoonfuls of egg.

No particular change occurred during the first fortnight of February, but on the 15th of that month I found that there had been no discharge of urine or fæces for two days. There were great heat of skin, frequent pulse, urgent thirst, and severe vomiting. The abdomen was considerably distended, and I thought that I could feel the distended bladder above the pubis. A small flexible catheter, which I had with me, was passed down the urethra, and it appeared to enter the rectum. It went at least far enough to have reached the bladder, but no urine flowed through it. Its removal was followed by the expulsion of a quantity of thin feces having a strong urinous odour.

I saw him again some hours after with Professor Lizars. A considerable discharge of thin feces had taken place, and the abdomen was softer; but the other distressing symptoms were but little relieved. He was put into a warm bath, and had a warm cataplasm to the abdomen. He again gradually improved, and on the 19th

the urine came again in a full stream, and the fæcal discharge was sufficient. The vomiting was gone, and the abdomen soft.

In the succeeding week there was again a deficiency in the alvine and urinary discharges; and, although a catheter was again passed into the rectum, the evacuations obtained were in small quantities. They had constantly a very strong urinous odour. There was now febrile oppression, great heat of skin, thirst, and frequency of pulse; the abdomen became much distended, but did not appear to be tender on pressure. Constant and distressing vomiting at last supervened, and he died convulsed on the 27th, being then eight months and 22 days old. On the day of his death a hardness appeared on the urethra above the scrotum.

The abdomen was examined on the 28th at 7 P.M. by myself and Dr. Kerr; Dr. Lizars having been unable to attend.

The lower part of the scrotum was hard, and of a dark purple colour, and there was a firm swelling over the urethra above it. These appearances we ascribed to urinary infiltration, but we were not allowed to make incisions here. On laying open the abdomen, the colon presented itself of a dark red colour, and so greatly distended as almost entirely to conceal the other viscera. The small intestines were pale and contracted. The sigmoid flexure had no more unnatural appearance than might have been expected to result from its great distension. The rectum passed straight down to the neck of the bladder, which was empty and contracted. At its widest part, which was about its middle, the rectum was 6 or 7 inches in circumference. Dr. Kerr passed a small silver catheter into the bladder, but a straight instrument was found to enter the rectum. There was no inflammatory effusion in the peritoneal cavity.

The rectum and bladder were removed, the urethra being divided at its membranous part. The tissue interposed between the lower part of the gut and the skin was dense and fatty. The bladder and urethra were opened anteriorly. An aperture leading to the rectum was situated at the anterior part of the prostatic, and beginning of the membranous part of the urethra. It was about a quarter of an inch in diameter, but appeared to have been recently enlarged by ulceration. At each side and behind it, in the situation of the openings of the prostatic ducts, there were several ulcerated spots which had undermined the mucous membrane, and through which, no doubt, the infiltration of urine had taken place: the mucous membrane was of a dark colour. A projection resembling the great end of the verumontanum looked forward into the communicating duct; it had a distinct lacuna on its surface: the openings of the ejaculatory ducts could not be found, but they may terminate somewhere in the communicating canal, which, in the preparation made of the parts, has not been laid open. The rectum was laid open along the mesorectum. Its coats, and especially the muscular, were greatly hypertrophied. Inferiorly it terminated in a pouch, as if a ligature had been applied to it externally; radii being observed to proceed from a small depression, in which was situated the aperture of communication with the urethra. This opening appeared to be closed by the contact of the folds of the mucous membrane, but it readily gave admission to a common-sized female catheter. The canal leading from the abrupt termination of the rectum to the urethra passed upwards and forwards through the apex of the prostate gland, and did not much exceed half an inch in length. The great intestine contained much thin brown fæces, smelling strongly of putrid urine.

There can be no doubt that in this case an opening could have been made from the perineum into the greatly enlarged intestine; an instrument, passed by the urethra into the gut, being used as a guide. But the consent of the parents could never be obtained to any operation after the failure of the first. As long as stools were easily procured, it was not, indeed, strongly urged upon them, partly from an unwillingness to submit so healthy and thriving an infant to the risk, and partly from the anticipation that a period would arrive when there would no longer be any doubt as to its propriety. When the stools began to be expelled with pain and difficulty, they could not be got to make up their minds upon the subject; and at a later

period, when an operation seemed to offer the only chance of prolonging life, they decidedly refused their consent.

References will be found in various authors to numerous cases in which the rectum terminated in the urinary organs.* Saint Hilaire tells us that the gut may terminate in the bladder itself (most frequently in its neck), or in the urethra; that it is a conformation most frequently met with in male infants; and that it may be with certainty pronounced to exist, when the urine is expelled from the urethra mixed with fæces. When the intestine terminates in the bladder itself, it has received from Papendorp and Meckel the designation of atresia ani vesicalis; when in the urethra, the latter anatomist calls it atresia ani urethralis. "The orifice of the intestine, forming in the urinary passages a kind of internal anus, is in almost all cases very small, and allows to escape only the more liquid parts of the meconium or fæces. In these cases death takes place after some days, or perhaps weeks. As an example, I may refer to a case which occurred in 1753, to Boirie, a surgeon, at Cap Français. The infant, a mulatto, lived twelve days. There existed but a very small opening between the neck of the bladder and the intestine; the intestinal canal was in consequence distended by a great accumulation of fæcal matters."—(Hist. des Anomalies, vol. i. p. 510).

Some writers have looked upon this malformation as a constant and necessary cause of speedy death. Bertin, who was the author of an interesting paper on imperforate anus, says that it must be considered as exceedingly dangerous, it being impossible for the fæces to find a passage by the narrow canal of the urethra, and their being long retained in the bladder must inevitably destroy the patient at last.† Dr. Baillie, too, has the following discouraging passage in his Morbid Anatomy:—"I have seen the rectum terminate in the bladder from an original error in the formation, so that there was no other external opening to the rectum than by the urethra: this was in a child at birth; the malformation was of such a kind as neither to admit of a remedy by art, nor to allow of life being continued." There can be no doubt, however, that the case is not so hopeless as these authors represent it to be; for the records of medicine present us with a number of instances, in which life has been extended for considerable periods, in some without any assistance from art, in some where the aid of the surgeon has been instrumental in prolonging existence. The following will serve as proofs of this assertion.

Poulletier de la Salle saw a child, three years and a half old, which had no external anus; the fæces were passed by the urethra, and generally in a liquid state; when somewhat consistent, their expulsion was attended with acute pains.*

[To be continued.]

* Cooper's Surgical Dict.; Meckel's Handbook of Pathological Anatomy; St. Hilaire, Histoire Des Anomalies.

† Mem. de l'Acad. des Sc. pour 1771; and Duncan's Comment., vol. x. p. 171.

* Dict. des Sc. Med., tom. iv., p. 157; Art. Cas Rares.

## MORTIFICATION FROM SUDDEN LOSS OF BLOOD.

A VERY copious blood-letting will, under certain circumstances, give rise to mortification. I will mention a remarkable example, which fell under my observation some years ago, in a case which I attended with the late Dr. Babington. The patient, a medical officer in the East India Company's Service, had gone out to dinner, and drunk an immense quantity of wine, so that he got exceedingly tipsy. This was in the city. He staggered up Holborn as well as he could, and found his way into a chemist's shop. Here he was mad enough to ask the person who stood behind the counter to bleed him; and whether this person was tipsy or not, also, I do not know; but, however that might have been, he certainly did bleed him, and not only that, but the two blockheads agreed that he could not bleed too freely; and the drunken man lost, I believe, not less than three pints of blood. He then became exceedingly ill; was carried home in a coach; and the next day both his feet were mortified, from the extremities of the toes to the instep. We gave him wine and nourishment, and he recovered; the sloughs separating, the dead bones coming away, and the stumps of the feet healing.—*Sir B. Brodie's Lectures on Pathology and Surgery.*

## THE SCOTCH EPIDEMIC FEVER OF 1843-4.

By John Richard Wardell, M.D., Ed.
Late President of the Royal Physical and Hunterian Medical Societies, Edinburgh; &c. &c.

[Continued from p. 513.]

### No. V.

The manner in which the distemper was ushered in, like all forms of continued fever, admitted of some variation, such being induced by certain idiosyncrasies and other circumstances calculated to influence its development. It would have been difficult to have selected a number of cases to which the foregoing heads were unitedly applicable; nay, it might perhaps have been no easy matter to find but a few instances, in which were discoverable every one of the diagnostic distinctions; for as we scarcely at any time, or it might truly be said never, observe two examples of any form of disease exactly similar as regards every particular, so do we not notice positive resemblances in a number of patients even in an epidemic distemper, although the disorder, as is allowed, proceed from some common cause, and each individual case originate in and depend upon the same cause. Whatever part in the interminable field of nature we may chance to scrutinize, variety to infinitude is every way manifest. Throughout the animal and vegetable kingdoms we could not find two examples, in these grand divisions of nature, where positive and precise similarity of structure existed: it is true that two animals or two plants might so nearly resemble each other as to render it a matter of great difficulty, and positively of impossibility, to decide in what they were not identical; yet were our senses sufficiently acute to enable us to detect those differences, we should at once be convinced of the truism; so it is with regard to those diseases which afflict the body. Diseases immediately proceed from the anormal actions of certain organs which are necessary to health and life, and those actions are always in an exact ratio to the states producing them, and as those states in all cases vary, thus are the phenomena of disease never exactly alike. The same external circumstances will not produce in a number of individuals the same effects; peculiarities of temperament, constitution, and habits of life, for instance, often, in a very marked manner, not only modify febrile affections, but other classes of disease: often we may notice during the time of an epidemic attack that two individuals may be placed in the same locality, where the extrinsic influences are of one character, in nature and degree of intensity — the poison producing the disorder in the one giving rise to the same disease in the other, yet one of the two may go through the attack in a comparatively mild way, whilst the other, in despite of every precaution and care, will unavoidably perish.

The initiatory symptoms of the disorder, when regarded in a general point of view, evinced a great similarity; a sensation of coldness, rigors, headache, often frontal and sometimes merely supra-orbital; lassitude; pains over the lumbar region, and in the limbs, the affection in the latter parts being described by the patient as a dull numbness; nausea; vomiting; loss of appetite; a heavy listless expression of the eye, and in the countenance was portrayed an obvious delineation of corporal suffering. The shivering was at various periods of intervention succeeded by flushings, heat of skin, much thirst, slight or sometimes copious perspirations; the latter symptom seldom in any great degree relieving the pains of which the patient had previously complained. Sometimes the diaphoresis was incomplete during the invading stage, being then but partial, and only becoming general throughout the surface at the crisis. These local sweats were mostly manifest in the forehead, neck, chest, and at the flexures of the extremities. In those persons in whom was noticed a dry skin from the commencement to the crisis, the critical perspiration was then often very copious. The urine was decreased in quantity, and high coloured; the vomiting would not unfrequently be persistent for three or four days subsequent to the accession; the bowels were generally more or less confined; the pulse was full, quick, and somewhat incompressible. The patient seemed anxious and restless, would toss about in bed, and give

utterance to his suffering in piteous moans, as if labouring under great bodily affliction. Upon inquiry after their arrival at the hospital, they generally stated that they had slept badly since the time of seizure, and that they had passed watchful nights without getting any sound or refreshing sleep. Such is a brief outline of the manner in which the disorder set in; the symptoms above noticed will, however, be more fully particularised, as they are in due order arrived at in the description of the distemper now submitted to the reader.

Dr. Cormack, in his work published on the subject of these papers, has noticed, and apparently with no ordinary degree of importance, a remarkable feature in the fever which was either over looked or disregarded by most of the other physicians and writers, who witnessed the affection; viz. "a bronzing, leadening, and purpling of the countenance before and after seizure." "In ordinary cases," says the same author, "the countenance of the patient has a peculiar appearance, which we may designate bronzed, for the want of a better term. Though no words can accurately convey what is thus attempted to be described, the appearance itself is very characteristic, and has never failed to arrest and interest the medical visitors to the hospital to whom it has been pointed out."* That such statement is exceedingly equivocal most of those who had sufficient opportunities of judging of the real nature of the epidemic must readily allow, and several with whom I conversed on this point, and whose opinions were entitled to the highest respect, dissented most essentially from the statements advanced by that author. Again, Dr. Cormack says, that in the autumn the facial bronzing was most common, and that by the time when he published his book (Dec. 1843), it had in a great measure vanished. Those gentlemen who were daily in the habit of seeing patients in every stage of the disease, from the very onset of the attack to its termination, must admit that in its manifest appearance little or no variation was discernible; indeed, as previously asserted, the evenness of the distemper in its general characteristics, throughout its duration, formed one of the many peculiarities which it presented, nor did it alter in severity, or in any essential properties, from the beginning to the close,—a circumstance unusual in former, and great epidemics, as the old writers generally notice that the attacks which they have recorded seemed to expend their greatest fury at the first, and, as they proceeded, their degree of malignancy often became so much diminished as to change the general features of the distemper. In the generality of febrile attacks occurring in cities and large towns, where the poorest and most destitute set of individuals are the first to become affected, and who, on account of their poverty and deprivations, are mostly a pallid, relaxed, and unhealthy class of individuals, with whom pectoral complaints are exceedingly common,—we may readily conceive that when a fever breaks out amid such persons, lividity and congestion in the features from pulmonic obstruction might be, and is, of very frequent occurrence; and it was this appearance, I apprehend, which Dr. Cormack regarded as a specific indication of the disease, and not, as it ought to have been considered, a mere adventitious condition, induced by the operation of obvious and acknowledged causes. Upon reference to the statistical tables it will be seen that a very great majority of the patients admitted into the hospitals were from the most impure and unhealthy localities in the city, where the miserable creatures who people those densely populated and noisome parts are many of them half-starved and half-clad, and with whom the different forms of bronchitis, phthisis, &c. are but too common; it is reiterated that we may easily imagine how a febrile affection will be more or less complicated with pulmonic congestion; and thus may be accounted for the appearance in question. Dr. Cormack, wishing to substantiate his opinion respecting the symptom now spoken of, quotes from Blane, who writes of the yellow-fever as follows:—"There is something very peculiar in the countenances of those who are seized with the disease, discernible from the beginning by those who are accustomed to see it. This consists

* Cormack on the Fever, page 3.

in a yellow or dingy flushing of the features, particularly about the parotid glands, where the yellow colour of the skin is first perceived."* Had such been of so frequent occurrence in the late epidemic, as we are led to infer, it appears somewhat strange that the physicians in Glasgow, Dundee, Paisley, and other places, some of whom gave accounts of the disorder, should have silently passed over this novel feature, and, so far as my own experience warrants an opinion, I have little hesitation in saying that the assertion is exceedingly doubtful.

The pathology will now be treated of, according to the numeration of its division as above.

I.—*The invasion was often unusually sudden, when compared with the ordinary mode of accession of the common forms of continued fever, as witnessed in this country.*

The manner in which typhus commences is often insidiously, and the patient not unfrequently tells us that for some weeks he has felt slightly indisposed; at least, he generally says, that for several days he has experienced a degree of languor and lassitude, some degree of head ache, loss of appetite, with more or less disinclination for exertion. In the seven days' fever, however, the sudden manner in which the initiatory symptoms set in convinced the physicians at an early period of its peculiarity as to this particular. Often, patients upon being interrogated would state that after they had gone to bed in usual health and spirits, they were on the following morning seized suddenly with a fit of shivering, pains in the limbs, nausea, headache, &c. which obviously determined the exact time on which the disease began,—a circumstance seldom so very markedly noticed in typhus. Dr. Christison, in his article on Continued Fever, in Tweedie's Library of Practical Medicine, when speaking of fevers generally, observes:—"The appetite is occasionally at first not affected; the strength is at all times so little reduced that a man has been in the incipient stage known to walk forty-five miles within so many hours." In the seven days' fever the symptoms hurried on with much greater rapidity; indeed, so much so, that patients would often present themselves at the hospital on the second and sometimes on the first day; and we see upon reference to Table No. V. that the average number of days from seizure to admission was not more than 4·7 days; in Table No. VII. 4·5 days; and the average would most assuredly have been much less if the patients could have invariably been admitted at the time of their first application; but, as before stated, the unwonted pressure of applicants beseeching admission was so great, and every bed so rapidly filled, that innumerable individuals had to wait for some days before it was possible to receive them into the institutions—if they were not unable to get in altogether. Dr. Welsh, in his work on the fever which raged six or seven and twenty years ago, thus writes with regard to the pathognomonic considerations now discussed. "Frequently the persons continue at their employment for some days, with languor, lassitude, aversion to motion, and loss of appetite; there are transient slight chills and flushings, after which they are attacked with decided rigors, pain in the back, and other symptoms of fever; more generally, however, the attack is sudden, the patient feeling previously no unusual sensation; sometimes, when at work, or when getting out of bed, to which they had gone in perfect health on the previous evening, or in short, after any unusual operation, they find themselves attacked with severe rigors, head-ache, pain in the back, nausea, and sometimes vomiting or diarrhœa."* This description accords well with the accounts given by patients of the mode in which their disorder was ushered in during the epidemic of 1843-4; and the suddenness of the attack in this distemper was perhaps more decided than in the fever recorded by Dr. Welsh. Well-marked rigors were seldom absent during the stage of invasion; and patients would say that they felt as if something cold were trickling down the back. The numbers that were affected with certain symptoms, as given in the tabular forms, well show the sameness of character which the disease maintained throughout its course. In Table No. VI. as under

* Blane on the Diseases of a en.

* Welsh on Blood-letting in Fever, page 16.

TABLE VI.—*Giving particulars respecting 450 cases of fever that were in the hospitals in January*, 1844.

| | | | |
|---|---|---|---|
| Males | 210 | 1 in | 2·14 |
| Females | 240 | 1 in | 1·87 |
| Under 20 years | 130 | 1 in | 3·46 |
| From 20 to 40 years | 217 | 1 in | 2·07 |
| From 40 to 60 years | 85 | 1 in | 5·29 |
| 60 years, and upwards | 18 | 1 in | 25 |
| Married | 214 | 1 in | 2·1 |
| Unmarried | 236 | I in | 1.9 |
| No. labouring under epidemic | 426 | 1 in | 1·034 |
| Yellow cases | 28 | 1 in | 16·07 |
| Affected with head-ache and pains in head or 1 in $1\frac{1}{4}$, or about 4 out of 5. | 350 | 1 in | 1·28 |
| Affected with pain in chest | 148 | 1 in | 3·04 |
| Affected with pain in abdomen | 75 | 1 in | 6 |
| Nausea or vomiting (with more or less of tenderness at epigastrium) or about 10 out of 16. | 273 | 1 in | 1·65 |
| Muscular and arthritic pains, especially during convalescence or 5 cases out of 6. | 375 | 1 in | 1·2 |
| Hypochondriac pain, or tenderness on left side | 74 | 1 in | 6·08 |
| Hypochondriac pain, or tenderness on right side or 1 in $11\frac{1}{2}$. | 39 | 1 in | 11·53 |
| Hypochondriac pain, or tenderness on both sides simultaneously or one in $11\frac{1}{4}$. | 40 | 1 in | 11·25 |
| Diarrhœa or dysentery or one in $6\frac{1}{4}$. | 72 | 1 in | 6·25 |
| General blood-letting | 19 | 1 in | 23.7 |
| Cupped | 6 | 1 in | 75 |
| Leeches applied to head or one in $6\frac{1}{2}$. | 68 | 1 in | 6·62 |
| Leeches applied to chest or 1 in $19\frac{1}{2}$. | 23 | 1 in | 19·56 |
| Leeches applied to abdomen | 16 | 1 in | 28·12 |
| Epigastric pain or tenderness or 1 in $2\frac{3}{4}$. | 160 | 1 in | 2·81 |
| Cough during attack, requiring more or less remedial measures | 55 | 1 in | 8·18 |
| 1 Relapse or 10 cases out of $19\frac{1}{2}$. | 231 | 1 in | 1·95 |
| 2 Relapses | 14 | 1 in | 32·14 |
| 3 Relapses | 2 | 1 in | 225 |
| 4 Relapses* | 0 | | 0 |
| Total of relapses or about 5 out of 9 that relapsed before leaving the institutions. | 247 | 1 in | 1·82 |
| Required Wine or 1 in $3\frac{1}{2}$, or 2 cases out of 7. | 123 | 1 in | 3·65 |
| Required spirits or one in 12. | 26 | 1 in | 12· |
| Ordinary Typhus* or 1 in $18\frac{1}{3}$. | 24 | 1 in | 18·75 |
| Had the genuine rose-red measly eruptions or 1 in $19\frac{1}{2}$. | 23 | 1 in | 19·56 |
| Relapsed in typhus | 0 | | 0 |

* As patients were generally dismissed as soon as possible from the hospital, in order to afford room to other applicants, it not unfrequently happened that they relapsed after going to their own homes, which of course renders the proportion who had a repetition of the disease greater still.

that out of 450 patients, 350, being 1 in 1·28, or 1 in $1\frac{1}{4}$, or about 4 out of every 5, had headache or pains in the head; of the same number, nausea or vomiting occurred in 273 instances, being 1 in 1·65, or about 10 out of every 16 cases. In Table No. VII., out of 40 cases, 31, being more than 3-4ths, had, during the invasion, aching and pains in the head, and no less than 38, being 9-10ths, had well-marked rigors. In Table VIII. the invading symptoms were as follows;—65 out of 80 cases, or 1 in 1·23, had rigors; 56, or 1 in 1·42, nausea or vomiting; 52, or 1 in 53, arthritic or muscular pains. The celerity of its commencement was well illustrated in the persons of certain parties who resided in the hospitals, and there contracted the disease. Dr. Cameron, who, in the autumn of 1843, was physicians' resident-assistant in the large fever hospital, Surgeons' Square, on the morning of the day on which he began to be ill ate a hearty breakfast, then experiencing no premonitory symptoms; and in an hour or two subsequently was seized with sudden pains in the right arm and shoulder, especially in the biceps muscle†, and from that moment he became rapidly worse; so much so that in the afternoon he was obliged to go to bed. My friend, Mr. John Watt Reid, now Assistant Surgeon in the Vindictive, who was Dr. Cameron's successor, was first warned of his attack by a quick lancinating pain in the right shoulder, whilst seated over the fire in a friend's house, from which moment the disease very speedily progressed. Also, my friend Dr. Wentworth Hende, who

* Out of the twenty-four cases of genuine typhus, it is seen that no less than twenty-three out of that number had the true measly rash.

† Some practitioners who witnessed much of the disease asserted that it was no uncommon thing for a sudden piercing pain to be experienced during invasion, in the deltoid muscle.

was Mr. Reid's successor in the Institution, began equally sudden. In the morning, when at breakfast, I observed nothing at all unusual either in his appearance or spirits; in the evening of the same day he was in bed with his head shaved*. I distinctly remember many instances during the autumn, especially amongst the Irish reapers, who were employed in the Lothians, of individuals who had gone to the harvest-field in the morning to prosecute their occupation, and in wonted health; in the evening they were conveyed to the hospitals, having had the invading symptoms come on so suddenly as to render them incapable of further exertion. Dr. Cormack says, he did not find that his patients described their attack as following some "unusual operation," as insisted upon by Dr. Welsh, in the epidemic of which the latter relates. It is said, in a previous paper, that whatever lowers the tone of vital action predisposes the body to disease, and renders it much more prone to the contraction of an infectious disorder; and it is quite reasonable to suppose that the system might absorb a certain quantity of poisonous effluvia, which during a state of quietude of the body might latently lay innocuous; yet if some exhausting or debilitating cause come into operation, and thus the repellent power of high and vital action be lowered, the absorbed noxious agent being now enabled to overcome the salutary repulsive efforts on the part of nature, such might spring into progressive existence, and thus a disease be lighted up in the system, that might, according to its particular nature, uninterruptedly proceed through its course. It is a commonly received opinion that there is the most risk in coming within the range of an infectious effluvia, when a person feels languid and depressed, and medical practitioners, when practicable, endeavour, wisely, to avoid exposing themselves to such, if labouring under those states. My friend, Dr. Fleming, left the hospital on leave of absence, and went to the country in perfect health. On the second day after his departure he had a very long walk, after which he was much fatigued. The next morning the unequivocal symptoms of the epidemic fever were manifest, and from that time he quickly became worse, and went through the disorder in its ordinary form. Now in the town where he was taken ill there was not, nor had been, any instance of the seven days' fever; for months previously, however, he had been in daily communication with patients affected with the distemper, and did not commence in the disease, but as soon as ever the system became debilitated the fever was developed. Here, then, is an example, and a very argumentative fact it supplies, favouring the supposition that an unusual operation formed the exciting cause to the disease. Almost all military medical writers notice that long marches are the invariable preludes to diseases, especially those of a febrile character; and troops, when in moderate exercise, in garrison, will be very healthy and tolerably free from fevers; but if they should be exposed to privations, and great physical exertions. those affections will often break out, and sometimes decimate their ranks. Respecting the unwonted suddenness of the fever now described, we can only attribute the cause of such to certain unintelligible properties in the nature of the poisons giving rise to it; it may be to the relative proportions in which the elements entering into the causation of the epidemic were blended;

* It may here be remarked, that the above-mentioned facts (of three persons quickly taking the distemper), powerfully favour the opinion that the fever was of a highly contagious nature. Each of these gentlemen, who were successively attacked, had, previous to their taking the affection, resided in different and distant parts in the new town, where the epidemic prevailed in a very limited degree, and scarcely at all in the squares and respectable streets; yet we see, as soon as they became exposed to infectious influence, they each readily took the distemper. Other two gentlemen, who, after the former, discharged the duties of that establishment, also contracted the disorder, and the whole of the five spoken of caught the complaint within as many months. Their becoming affected could hardly be attributed to malaria, because this hospital had been newly fitted up for the reception of fever patients, with a view to keep them distinct from the Royal Infirmary and the surgical department; a general reparation had for some time been carried on in the interior; the newest and most approved contrivance for an efficient ventilation constructed, by which an ample perflation of air could readily be directed through each apartment, and every precaution as to cleanliness, and similar considerations, had been strictly attended to before any case was admitted. Besides, if malaria had been the cause, it is fair to presume that some of the work-people, who had been long employed in the alterations, would have contracted this particular fever, which was not the case. From these, previous, and many other facts that might be advanced, the only legitimate inference to be arrived at is, that the distemper was of a highly contagious nature.

to the predominance of some powerful agent or the like, which is more probable than that such was owing to personal peculiarities, because the characteristic was exceedingly common, being the rule and not the exception. Had it occurred merely in a few isolated cases, we should have rather felt inclined to attribute it to certain states within the body, which were highly calculated to further its development, instead of assigning it to the common cause – to specific influences in the prime causation. A physician, who saw much of the distemper, when adverting to the point now discussed, observes: – "From what I have seen and heard of the manner of the invasion of typhus fever in various epidemics, I regard the sudden and violent invasion of the present form as characteristically different from the way in which that disease sets in."

[To be continued.]

## A CURIOUS FFFECT OF ACID IRRITATION OF THE KIDNEYS.

By Robert Dick, M.D.

A gentleman, about eight and thirty, has more than once complained to me of symptoms caused by the use of acerb articles of food. Within from four to eight hours after the unguarded employment of such food, he had already informed me that pains or twinges of a peculiar kind affected his thighs, sometimes extending to his calves. These pains resemble now sharp pricking by a pin; now something akin to, but not *quite* resembling, a very severe *pinch* by the finger and thumb of another person. Meantime the kidney itself was not the seat of any pain, though, from preternatural acidity of the urine, there was ardor urinæ. On the following day, however, there was usually pain on either side of the lumbar spine, indicating renal irritation. The treatment which I suggested, and which was always effectual on such occasions, was half a dram of carbonate of potass, largely diluted, to which were added from two to five grains of nitrate of potass, to direct the fluid to the kidneys, and carry out the acid secretions going on or completed there, and the presence of which were the cause of the suffering of these organs.

The last attack is of so curious a sort, that I am desirous of recording it. The patient, whether from some structural change in the heart or liver (for he has suspicious symptoms in both organs), or from a less formidable cause, is a good deal annoyed with a loaded state of the intestinal mucous membrane, leading to a tumid state of the rectum, occasional prolapsus and sanguineous exhalation from the everted surface. By my suggestions he has on these occasions used cautiously a cooling sub-acid diet, such as grapes, stewed apples, stewed pears, stewed rhubarb, cyder, claret. These, along with small doses of the milk of sulphur, and the bitartrate of potass, have relieved the protrusion of the bowel, without inducing derangement of the kidney. But last week, this gentleman, suffering more than usual from the tumid state of the rectum, took, on each of two succeeding days, a dozen of the rather sour apples used for stewing, and though these were cooked and sweetened, he experienced, on the nights of the second and third day, the following singular affection.

On the afternoon of that day, he noticed that the quantity of urine was diminished, and that there was a soreness and fulness on either side of the lumbar spine; but from neither of these causes did he suffer any direct pain or inconvenience of the slightest consequence. But about eight o'clock at night, he began to feel at the inner and lower extremity of the right femur, and just between that and the patella, a pain, which, resembling at first the usual one, like the prick of a pin, gradually increased in vehemence, till it become all but intolerable. He could compare it, he said, to nothing but flashes of intense pain, and he tells me he could give me a diagram of this pain. He might compare, it he said, to a star and radii of about an inch and a half square; the pains "corruscating," so to speak, from a central point, to the extent above named. Sometimes the sensation was somewhat of a tearing kind, and went deeper, resembling somewhat, so far as I could comprehend, the lacerating pain experienced in gout. It was such as totally to prevent sleep for many hours, but it did not cause any febrile excitement, nor did it terminate in

perspiration either of the part, or general. It left him towards morning. He was entirely free from pain everywhere else, with the exception of the slight uneasiness in the renal regions already indicated. His urine the next morning, and during the next day, was strongly acid.

I attributed the affection to irritation of the kidney, and of course regarded the pain at the knee, as analogous to those pains, seemingly situated in the fingers and toes of persons who have lost limbs by amputation; the pains being really seated, if we may use the word, at the origins of the nerves going to the lost parts. The irritation of the kidneys had, doubtless, in some way, extended to the spinal cord, or to the roots of the lumbar nerves.

I ordered diluents and a gentle laxative, and having noticed in some similar affections a tendency to periodicity, I suggested an opiate at bedtime. The propriety of this was shewn by the recurrence of pain that night, with such considerable severity, that my patient assured me, that but for the opiate he would have suffered no less than on the preceding night. As it was, he suffered less; still he suffered not a little, and though he dozed he did not enjoy sound sleep. A repetition of the opiate, however, secured this on the next night, and removed entirely the attack.

12, Bentinck Street, Manchester Square.

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### MEANS OF COUNTERACTING THE ACTION OF CAUSTICS.

When you use a caustic, it is almost always prudent to have some counter-agent at hand to stop its action if it reaches a sound part. If you use nitric acid, you should have at hand a solution of the bicarbonate of potash; caustic potash may be neutralized by vinegar, or by a solution of the diacetate of lead. If you are afraid of nitrate of silver burning the neighbouring parts, its action may be neutralized by common olive oil. A solution of bicarbonate of potash will decompose chloride of zinc, and so on with other caustics.—*Sir B. Brodie's Lectures on Pathology and Surgery.*

*** The carbonate will answer as well as the bicarbonate of potash, and a strong solution of common salt will effectually decompose and neutralize the caustic properties of nitrate of silver.—Ed. Gaz.

# MEDICAL GAZETTE.

FRIDAY, MAY 1, 1846.

The Society of Apothecaries and the National Association have lately published a pamphlet, containing the three reports of the joint deputation appointed to confer with the Secretary of State on the subject of the incorporation of the general practitioners. Our readers must be pretty well acquainted with the nature and object of these reports: and our only motive for adverting to them at the present moment, is to see whether we can draw from them any hope of a settlement or compromise of the differences now existing in the profession.

It is very properly remarked in the preface, that under whatever auspices the further consideration of the complicated question of Medical Reform may be conducted, the subject will be resumed under circumstances more favourable, in many respects, than those which have hitherto attended it. A great deal of ground which has been travelled over during the late discussions, will not have to be retraversed: erroneous impressions which had previously existed will have been removed: information which was previously wanting will have been supplied: the actual relation in which the various branches of the profession stand to each other and the public, will have become more apparent: the particular sphere of duty which the public wants have assigned to each of those branches will have become better understood; and the most effectual mode of rendering the members of every branch thoroughly competent to the discharge of their proper functions, will be acknowledged as the great object to be attained by medical legislation.

By the publication of these reports the profession will be enabled to form a judgment of the actual relation in which the Society of Apothecaries wish to stand with respect to the Colleges of Physicians and Surgeons. It is certainly much to be regretted that the conduct of these Colleges has so far alienated the feelings of many of their members, that some who would have vigorously opposed the foundation of another Institution subversive of or injurious to their interests, either now look on with indifference, or take an active part against them.

Hitherto nothing but discord has existed in the profession; but there now appears to be a desire that minor differencesshoud be mergedin the demand for a distinct incorporation. In the pamphlet before us the deputation alleges "that it would be unsafe to entrust the education of this body of men either to those who deny, or to those who tardily and unwillingly admit that the general practitioner should be educated for all the emergencies of his profession." We confess it is with regret that we cannot perceive any prospect of an amalgamation of interests for the common good of the profession, between the Colleges of Physicians and Surgeons on the one hand, and the Society of Apothecaries on the other. The multiplication of institutions for granting licenses to practise is a great evil; there does not, however, appear to be any alternative in medical legislation but the creation of a new and independent College, or the complete extinction of the Society of Apothecaries. If the privilege of granting licenses were withdrawn from the Society, we do not see that there is any other body in this country fitted to take their place; for with all their trivial and petty arrangements about the precise number of lectures attended, the precise seasons of the year, &c. &c. the curriculum of the College of Surgeons, if we except surgery, falls far short of that of the Apothecaries' Society in completeness. In Anatomy, Physiology, and Surgery, the College curriculum is undoubtedly most perfect; but the apothecary, or the practitioner of the people, requires more than a knowledge of these subjects. It is true that the curriculum for members requires certificates of attendance at one course of lectures on the Practice of Physic,—Chemistry, Materia Medica, and Midwifery, with Practical Instruction; but whether the candidates have, or have not, any knowledge of these subjects, so important to those who are engaged in *general* practice, is at present only determined by their presenting themselves for examination at the University of London, or at Apothecaries' Hall. We believe we may say, without intending any disrespect, that there is not a menber of the Board of Examiners at the College of Surgeons who is capable of conducting an examination on any one of these last mentioned subjects. Medical Botany and Forensic Medicine are considered to be quite unnecessary to the candidate for their diploma; and in this respect, we believe, they form a singular exception to every other Medical College and University in Europe. The College examination, as it is at present conducted, would therefore be no test of qualification for *general* practice. If a man be tolerably well versed in Anatomy and Surgery, he may be profoundly ignorant on every other branch of a medical education, and yet receive his diploma. So long as teachers of Medicine, Medical Chemistry, Materia Medica, and Midwifery, are excluded from the examining board, and pieces of paper are received as evidence of the candidates' knowledge of these subjects, we do not see how the College of Sur-

geons can undertake the entire responsibility of educating the general practitioner. On this ground, as well as on the arbitrary division formed in the class of members by depriving a certain number of them *nolentes volentes* under one charter, of rights which they had been permitted to acquire under another, the Deputation certainly appear before the Government with a strong claim for a separate incorporation.

Having no party views to serve, and disregarding all selfish motives in the arrangement of these matters, we confess it would give us sincere pleasure if such changes were made by the Royal Colleges in their rules, in their plan of education and mode of examination, as would render the foundation of a new College unnecessary. Thus, with respect to the College of Surgeons, to require attendance upon lectures without examining candidates, is a practical absurdity; and to rely upon another, and a so-called inferior institution, for determining the competency of their candidates on subjects undoubtedly necessary to a sound medical education and to every-day practice, is assuredly the best argument which can be furnished, either for the maintenance of the Apothecaries' Society in its present anomalous state, or for the foundation of some new College, with similar but enlarged powers. It must not be forgotten that the general practitioner of the present day is the medical attendant of nineteen-twentieths of the population of England and Wales; and that in any future legislation for the profession this fact will probably have a most important influence on the details of the new measure.

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At the late meeting of the National Association a General Report was read, embodying most of the statements contained in the Third Report, upon which we have above commented. The only inference which we can draw from the proceedings of this meeting is, that all hope of any union of interests with the College of Surgeons, is in the opinion of the Association at an end. The Committee therefore recommend that the Association should take an independent course, and at once proceed to establish a "National Institute of Medicine, Surgery, and Midwifery," to be governed by a representative Council, both of provincial and metropolitan members, whose duties should consist,—in watching the progress of legislation as it may affect the interests of the medical profession,—in publishing annually a list of duly licensed practitioners,—in seeing that so long as a certificate of *surgery* must be obtained from the College of Surgeons only, the education of the member, *i. e.* the general practitioner, is maintained at a proper standard,—in publishing transactions periodically of a mixed political and scientific character,—in founding a library and museum,—and in establishing prize essays and examinations.

It is further proposed that the National Institute shall be founded on the basis of the following Heads of Charter, which have already received the sanction of the Association.

As respects qualification for membership, that it should embrace, in the first instance,

"Gentlemen who were in actual practice previous to the 1st of August, A. D. 1815.

Licentiates of the Society of Apothecaries.

Members of the Royal College of Surgeons in England, Ireland, and Scotland.

Doctors or Bachelors in Medicine of any University of the United Kingdom, and Fellows or Licentiates of any College of Physicians of the United Kingdom, who shall have been in actual practice as general practitioners in

medicine, surgery, and midwifery, or who shall satisfy the council of their qualifications to practise in medicine, surgery, and midwifery, and who are at present Members of the National Association, or who shall enrol themselves previously to the expiration of six months from the date of the formation of the Institute."

Subsequently—

"Such persons only as shall satisfy the council as to their qualification to practise in medicine, surgery, and midwifery."

That its government should be—

One president, "to be elected by the council triennially, and eligible for re-election."

Three vice-presidents, to be elected by the council from their own body by ballot, one to go out every year, and not to be eligible for re-election for a year.

A council, "to be composed of forty-eight members, one half practitioners resident within ten miles of the General Post-office, the other half country practitioners resident beyond that distance. No member of the Institute to be eligible as a member of council under —— years from the date of his qualification to practise.

"The council to be elected by the members of the Institute; every enrolled member to be entitled to a vote.

"One-third of each metropolitan and provincial branch of the council to go out of office annually, and the vacancies to be filled up in equal proportions from the respective branches, but the retiring members not to be eligible for re-election for a year.

"The election to be by voting papers, and decided by a majority of votes.

"The council to prepare a code of laws for the regulation of the affairs of the Institute, subject to the approval of a general meeting of the members."

Here, then, we have a sketch of the rules by which this voluntary Association, which is said now to number four thousand members, is to be governed. What its future influence as an independent institution may be, must depend not merely upon the position and standing as well as the numbers of those who may join it, but upon perfect unanimity in carrying out its objects. The National Institute is already greatly strengthened by its union with the Society of Apothcearies, and by the fact that there is at present, as we have already remarked, no independent College for granting licenses to general practitioners. The license of the Hall gives a qualification for practising all branches of the profession except surgery. The diploma of the College, which most of the licentiates of the Hall are compelled to take, if not by law, at least by custom, furnishes a qualification in surgery and anatomy. The present general practitioner, must therefore be a licentiate of two institutions, neither of which, as it is at present constituted, is separately adapted to educate and qualify him for practice. We have already made some comments upon the difference between the two curricula; it may be further remarked, that notwithstanding the very important part of general practice which Midwifery is admitted to form, neither institution is adapted to test the qualifications of candidates on this subject. The National Institute, therefore, proposes to unite in itself the double functions of the College and the Hall; and to avoid the defects which exist in both, by examining in surgery and midwifery, those who seek the membership. This object is so far good, and we have undoubtedly here the frame-work of a corporate body, which, provided it be well supported by the profession, may be favourably regarded in any future plan of medical legislation.

It cannot be concealed, however, that the granting of such a charter as that which is sketched by the Institute, would be attended with the de-

struction of the Royal College of Surgeons. The membership of that College would be no longer sought for, and the fellowship would be left to the few whose views might lead them to practise surgery alone. The College of Surgeons would therefore be limited to the Council and Fellows: its funds would decline, and its power over the profession as a Corporate Institution would cease. Now the question is,—Is the profession prepared for the overthrow of the College of Surgeons, or will any minister grant a charter, or sanction a bill, which would either directly or indirectly bring about such a result? We believe not. We have not hesitated to denounce what we conceived to be the injustice of the proceedings of the Council toward its old members; but our conviction is, that notwithstanding this injustice, there are numbers in the profession who, in common with ourselves, are opposed to the destruction of the College; and we therefore doubt whether the new Institute will receive that universal support which it anticipates.

Taking the heads of Charter as they stand, it appears that no qualified physician will be admitted as a member who has not been engaged in actual practice as a general medical practititioner; and we draw the same inference with respect to members of the Royal Colleges of Surgeons, although the language in respect to them is not so explicit. If these rules be adopted, the National Institute will be merely an Institute of Apothecaries; and we find in the Report that the principle of dispensing medicines is strongly advocated, instead of allowing this to be consigned as much as possible to the hands of pharmaceutists.

Some of the objects of the proposed Institute are undoubtedly praiseworthy; *e. g.* the registration of duly licensed practitioners; but to be of any service to the public, the register must contain the names of those who are *not*, as well as of those who are, members of the Institute. Then, again, the publication of transactions on medical (not political) subjects, the foundation of a museum, and public examinations, are highly commendable, and must receive the approval of all who wish well to the profession.

Our belief is, that there is still a large party in the profession, who would desire to see some changes in the College of Surgeons, in preference to the foundation of a new College for superseding their powers by granting licenses in surgery;* and in the event of this voluntary association being formed, there will be many members of the College of Surgeons who will not join it, from a feeling that at the eleventh hour there may still be a redress of the grievances under which they consider themselves to labour, in being arbitrarily excluded from the enjoyment of rights which they had acquired by study and examination. On the other hand, that the present Ministry will ever consent to grant a Charter of incorporation, which would practically annihilate the College of Surgeons, is utterly improbable. Indeed, in his last letter to the joint deputation, in which the Home Minister says that he is not at present prepared to advise the grant of a Charter of Incorporation to the practitioners in *medicine* and *midwifery*†, he entirely omits all reference to *surgery*,—thereby plainly showing that he does not contemplate any interference with the powers of the College, in granting diplomas of surgery to those members who are at present virtually compelled to take them in order to become general practitioners.

* See Memorial of the Gloucestershire Association, p. 703.

† Three Reports, &c. p. 42.

Thus, then, the National Institute, on its present basis, is likely to remain a voluntary association, without any legal powers or privileges. Its connexion with the Society of Apothecaries may enable it to improve still more the education and examination of those who seek licenses under the act of 1815; but without a Charter it is not likely to collect within it the majority of the old members of the College of Surgeons, or of those who hold diplomas from the various Colleges of Physicians, even supposing that the rule for admission should be modified or rescinded? They will prefer the membership of the College to that of the Institute.

At the same time, we do not see why, within proper limits, an Institution of this kind, should not be incorporated so soon as, by the number and the respectability of those who join it, the circumstances may appear to warrant the issuing of a Charter. The reorganization of the Society of Apothecaries, and a modification of its powers, are earnestly demanded. The system of examination requires to be more extended and made more practical; and it appears to us that another Act of Parliament or a Royal Charter might, without interfering with the two Royal Colleges, at once convey to the National Institute the privilege to grant licenses for general practice, similar to that now exercised under the Apothecaries' Act, but comprehending midwifery and other subjects, which are at present entirely neglected. To seek a power for granting licenses in *surgery* and *medicine*, which shall supersede either directly or indirectly those now granted by the Royal Colleges of Physicians and Surgeons, must end in failure: and the attempt to carry out this object can only lead to the indefinite protraction of any legislative measures for improving, even to a considerable extent, the education and standing of the general practitioner. We do not advise any surrender of what by custom have become confirmed privileges; but it is surely unreasonable to postpone the certainty of some present improvement, for the sake of waiting to obtain that which is never likely to be granted.

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In a late number we stated that the Asiatic cholera had spread through several provinces of Persia, and had given rise to great mortality in some of the principal towns. It is reported to have extended from Bokhara across the Persian frontier to Herat and Meshid, thence south of the Caspian to Teheran, and still further south to Ispahan. Recent accounts from Odessa, state that it has crossed the Russian boundary, and has appeared at Tiflis, taking a course northward between the Caspian and Black seas: while according to the latest intelligence from Riga, it has broken out at Orenburg in the Uralian mining district, crossed the Volga, and appeared on the European side at Kasan, about 1200 miles from St. Petersburg. If these accounts are to be trusted, the disease has taken a somewhat irregular course, in a direction west by north; and it does not appear to have followed the banks of great rivers as in the former irruption of 1828-30. The disease which reached England in 1831, prevailed in Persia for seven years from 1823 to 1830. It appeared at Orenburg for the first time in 1823; and was confined to this quarter for a period of five years. It reappeared at Orenburg in 1829, and its prevalence and fatality in this province were so great, that upwards of one-tenth part of the inhabitants were seized with it, and one-fourth of those who were attacked, died. It reached St. Peters-

burg in July 1831, and England on the 26th October of that year. At Tiflis, where it is again reported to have broken out, the mortality from the former epidemic was so great, that three-fourths of those who were attacked, perished. We shall take care to report any further information which may reach us respecting the progress of the malady.*

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From an announcement recently made to the House of Commons by the Home Minister, we infer that it is not the intention of Government to attempt to pass the Health of Towns' Bill this session. Indeed, when we consider the numerous and important subjects upon which the Legislature is now engaged, the advanced period of the session, and the fact that the Health of Towns' Bill is a perfect folio volume, containing three hundred and twenty-five clauses, many of which are likely to give rise to considerable discussion, it is in the highest degree improbable that it could be introduced with the hope of its being enacted into law. Those, therefore, who have been anxiously looking forward to the medical inspectorships, and who have acquired a sudden and intense interest in all subjects connected with Hygiene and Medical Police, must be content to await the results of another session.

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### A NEW SIGN OF DEATH.

M. Ripault has lately directed the attention of the Academy of Sciences to a new sign of death. This is, *perfect flaccidity of the iris* when the globe of the eye is compressed in two opposite directions. If the individual be living, the pupil retains its circular form, notwithstanding the compression. If dead, the aperture becomes irregular, and the circular form is lost.

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* For an excellent account of the Pestilential Cholera, we must refer our readers to the last published part of Dr. Copland's Dictionary of Practical Medicine.

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## Reviews.

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*A System of Surgery.* By J. M. Chelius. Translated by John F. South. Part VII. VIII. IX. London: Renshaw. 1845-6.

The parts of South's translation of Chelius still continue to appear with the same unfailing, and we fear we must add (at the risk of being thought to reflect upon the irregular manner in which the parts of certain other works, published in fasciculi, are wont to struggle from the press), with the same inimitable regularity which marked the publication of the earlier numbers. Nor do these parts, in any degree, fall short of their predecessors in the copiousness and value of their details The work certainly forms an almost unique curiosity in medical literature, in the fact that the notes occupy a larger portion of the volume than the original matter, an arrangement which is constantly appearing to render the text subsidiary to its illustrations. Still this singularity of manner does not at all detract from the value of the matter thus disposed.

We can, at present, merely extract a few passages of interest from the numbers before us.

The following observations upon the management of the bowels subsequently to operations for lacerated perineum, may be read with advantage.

"The principal object after the operation is to produce, by the use of gentle purgatives, daily, soft motions, which should pass into a draw-sheet, and the patient must strain as little as possible. Attempts have been made to sustain an artificial retention of the fæces for six or eight days, and even longer, so that the union might be undisturbed. Dieffenbach gives, for two days prior to the operation, little but nourishing food, then a laxative, and on the day of operation an opium pill to produce and keep up costiveness for six or eight days, after which he gives castor oil. But with all care and employment of remedies for facilitating the discharge of fæcal matter after long costiveness, their discharge is very difficult, accompanied with severe effort, and may destroy the scarcely effected union. Thus in Sancerotte's case, in which the union failed, the stitches tore on the eleventh day on account of the violent

effort in going to stool, and in which a second operation, in which a tight suture had *cut through* the *m. sphincter ani*, succeeded, care having been taken for the easy relief of the bowels. Roux employed in one case costiveness, which the patient had learnt by refraining from food and by the use of opium, so perfectly to effect, (for the purpose of improving the unpleasantness of her situation), that the motions were retained till the twenty-second day, and on account of their hardness required to be helped forward by pressure of the finger from the vagina; he recommends, however, on the contrary, when habitual costiveness is not to be relied on, to render the excrements fluid, and he proposes this as a principal point in the after-treatment. In Davidson's case, the bowels were constipated by opium, the urine drawn off night and morning, and the diet was confined to small quantities of gruel and hard buiscut. The ligatures were removed on the seventh day, the union being complete. After nine or ten days the urine was voided naturally, and, on the seventeenth, the bowels were relieved. At the end of six or seven weeks she went about as usual. Horner recommends, after the union is perfected, to cut through the sphincter ani, so that the sutures should not be torn out in going to stool."

The following mode of treating scabies appears to be preferable to the uncleanly process of inunction:—

"In the Belgian army, liquid sulphuret of lime is used for the cure of itch, according to the following order:—'Each patient is to be supplied with an ounce or an ounce and a half of liquid sulphuret of lime in a small pot. This quantity he is to rub carefully and slowly with his hands on every part that is covered with papulæ. If there be any papulæ on the back, another patient is to rub the liquid on that part. The operation is to be repeated three times in the twenty-four hours; so that each patient consumes three or four ounces of the sulphuret daily. A bath is to be taken every alternate day; the frictions are to be suspended on that day. Fifteen frictions, (or ten days' use), are usually sufficient for the cure of the disease, if the medical officer sees that the remedy is properly used.

"*Preparation of the Sulphuret of Lime.*—Take of sublimed sulphur 16lbs., and of quick-lime 32lbs, and boil in 80lbs. of water for three quarters of an hour. Let the mixture rest for some time until it settle, and then let the clear fluid be decanted off. Boil the residue afresh in about the same quantity of water, treat it in a similar manner, and add this decoction to the first. Usually 140lbs. of the sulphuret, at 12° by the aerometer, are thus obtained. If the liquid be more dense, it should be lowered to this standard by the addition of rain water."

The following cases of dislocation of the hip present unusual features:—

"My friend, the younger Travers, has informed me that he had, in February 1845, a case of dislocation into the ischiatic notch, in a boy of five years old, who, whilst at play in a paved yard, slipped down and was unable to rise. He could neither walk nor maintain the erect posture. All the symptoms of dislocation were present; the head of the bone was resting upon or next to the margin of the ischiatic opening; not having as yet sunk into the cavity of the notch, which, Travers considers, is always a secondary result of this accident. There was some mobility of the limb. The head of the bone was almost immediately reduced by confining the pelvis with a strap upon a firm deal table, turning the child upon his sound (the left) side, and making the usua extension, with slight rotation outwards and raising the knee."

The author remarks that this is the earliest instance of accidental dislocation with which he is acquainted. Two cases of dislocation by violence of the femur backwards, in young children, have occurred within our own knowledge.

"My friend Liston tells me that he once reduced, without assistance, a dislocation on the back of the hip-bone, two or three hours after it occurred, by the person having been thrown from his horse, simply by putting his hand on the pelvis, and pulling and rotating the thigh with the other. This is probably an unexampled case, but it proves that, the earlier the reduction is attempted, the less power have the muscles to offer resistance."

The principal topics discussed in the seventh and eighth parts are: Fractures of the bones of the leg and foot, Ununited fractures, the operations for hare-lip, cleft palate, and torn Perineum; Syphilitic and other Ulcers, Diseases of Bone; the various kinds of Fistulæ, and Dislocations. The ninth part is wholly devoted to the subject of Hernia. It would have considerably increased the facility of reference to this work, had a list of the subjects discussed in the current and back numbers been printed on the wrapper of each. At present, the reader who wishes to refer to a particular subject, may be compelled to search for it through the whole of the nine numbers, and may, very probably, fail to discover it at last.

*Observations on the Nosological Arrangement of the Bengal Medical Returns, with a few Cursory remarks on Medical Topography and Military Hygiene.* By FRED. J. MOUAT, M.D., F.R.C.S.E., Assistant Surgeon, Bengal Army, &c. 8vo. pp. 64. Calcutta: 1845.

WE confess that we have never been inclined to regard works on nosology with the slightest degree of respect or favour, or to look back with any feelings of gratitude to those professors who devoted their time and energies to the classification of diseases, the true nature of which has never been satisfactorily established. It cannot be doubted for an instant that the lucubrations of the nosologists have, for nearly a century, proved an impediment to the advance of pathological inquiry, second only in magnitude to that which is afforded by the intrinsic difficulty of the investigation itself;—and it is only now, when inquirers are beginning to refuse to be trammelled any longer by opinions which rest upon no surer foundation than the dicta of some by-gone sage, that men's eyes have been opened to the injurious tendencies of these contracted systems. The study of nosology long proved a clog upon pathology, checking inquiry, substituting words for facts, and making a spurious kind of learning take the place of actual practical knowledge. Under this system, diseases became as it were, impounded in nosological durance — *auctoritate antiquorum*—until some courageous innovator should be found sufficiently intelligent to perceive their false position, and bold enough to seize upon them unceremoniously, and to drag them out by force. It is true enough that many of those who based their knowledge of disease upon the systems of the nosologists were erudite professors and well-read book men; but, as a complete subscription to the tenets of any system of nosology necessarily involved narrow and erroneous views of disease, it became a matter of demonstrable evidence, that such men could not, by any possibility, have been judicious and safe practitioners. Unquestionably the injurious consequences of adherence to these systems often displayed themselves most fatally in practice. Men who loudly ridiculed the bigotry of the French Academicians in continuing to operate for the stone by the apparatus major, upon the dictum of Hippocrates—that wounds of the bladder are mortal, did not hesitate to treat a disease by bleeding and antiphlogistics, *because* it had been classed by their oracle, Cullen, amongst the phlogoses or the pyrexiæ; and we have reason to know that this system of treating diseases by their names, rather than by their characters, prevails to a considerable extent even in the present day. Nosology has, however, been for some years abandoned in favour of its worthier successor, pathology, and all sensible men are fully aware that, while each of the old systems is utterly worthless, no new system of nosology can be formed until the true nature of every disease has been accurately ascertained—a result most devoutly to be wished for, but in all probability lying infinitely beyond the grasp of human intellect.

If further proofs of the truth of what we have stated were required, it might be found in the sensible commentary of Dr. Mouat upon a nosological form which has lately been issued to the medical officers of the three presidencies, to be filled up as a monthly return of the sick and wounded troops under their care. This form is certainly less objectionable than those which were made use of in the public services some ten or twelve years back—in which the system of Cullen was rigidly adhered to—but it is exceedingly incomplete, and its details are, in very many respects, glaringly faulty. Dr. Mouat, in his review of the various headings of the list, proceeds to remove almost every form of disease from its nosological class, and arrives at the just conclusion that, to secure a correct system of reporting, the whole must be reduced to a simple list—he believes that no better or more complete arrangement can be suggested than the alphabetical one adopted in the regimental returns of the Royal Army. We do not altogether coincide with Dr. Mouat in the whole of his arguments with regard to the errors which he conceives to have crept into the nosological table, but even this is but another evidence of that clashing of opinions and that uncertainty which must always render the classification of obscure diseases according to their

supposed causes, a vain and unprofitable task. We trust, however, Dr. Mouat's judicious remarks will meet with that attention from the authorities which they unquestionably deserve.

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*Rough Sketches, embracing the Nature and Treatment of the prevailing Diseases of Port Phillip, New South Wales.* By a RESIDENT PHYSICIAN.

WE have received several numbers of the Port Phillip Gazette, containing a rather extensive series of papers under the above title. The principal subjects treated of in these essays are dysentery, fever, infantile remittent, rheumatism, delirium tremens, and purulent ophthalmia. We can, of course, scarcely judge of the degree of practical acquaintance which the author has acquired with disease as modified by the climate in which he resides, but he evidently possesses strong powers of observation, and considerable acquaintance with the subjects which he discusses. The following extract contains some interesting facts relative to the influence of brackish water in causing dysentery. They in a great measure accord with circumstances observed by surgeons who have practised in the West Indies.

"Unwholesome water may be considered as another of the remote causes. The water with which the inhabitants of the town of Melbourne are supplied (from a river of slow current, in many parts of great depth), is brackish, from the decomposition of animal and vegetable matter; it also imparts a distinctly salt flavour, caused by the admixture of the sea with fresh water, particularly when the tide runs unusually high. In the early part of the month of October last, the flood was greater than on any preceding year since the foundation of the colony; and, as anticipated, the river overflowed its embankments, rising several feet above its level. During that period several cases of diarrhœa and some of dysentery occurred. Great doubts, nevertheless, have been entertained by many practitioners as regards the production of dysentery from the above cause. If persons who are in the habit of indulging in the use of beer, suddenly substitute water for their drink, in three cases out of ten such individuals will be attacked with an affection of the bowels. Again, if a child, having been chiefly dieted on milk, be allowed to drink plentifully of the river water, diarrhœa or dysentery will ensue in the proportion of one in six cases. I have instituted experiments" (how?) "with a view to ascertaining how far we are justified in ascribing such diseases to the drinking of the Yarra water, and am satisfied that, on many occasions, they may be fairly traced to such a cause. I have witnessed many instances in which the lives of infants have been sacrificed by mixing the river water with their food, especially when circumstances have required their immediate weaning. Mothers who have uninterrupted health would act wisely in not weaning their offspring during the summer months. If they cannot conveniently acquiesce in the proposed measure, they would do well to substitute rain for river water, as being far less injurious to the health of their children. The occurrence of bowel complaints amongst children living in that part of the country called the "Bush" is comparatively rare; the water, which is chiefly supplied from creeks or water holes, although brackish, is upon the whole far more wholesome than our common river water, which is impregnated largely with muriate of soda. No advantage arises from previously boiling the river water. Several families have experienced attacks of diarrhœa or dysentery after drinking freely of tea; it would be idle to imagine that the quality of the herb infused could affect individuals in the manner stated."

The above remarks may prove of some value to medical men practising in other localities.

These essays are highly creditable to the author; they afford another illustration of the gratifying fact that our colonies now boast of many highly educated medical men, who persevere in the cultivation of those scientific inquiries for which they have become qualified by their education in the mother country.

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*A Manual of Medical Jurisprudence.* By ALFRED S. TAYLOR, F.R.S., Lecturer on Medical Jurisprudence and Chemistry in Guy's Hospital. Second Edition. 8vo. pp. 704. London: Churchill. 1846.

WE have always considered that there is something truly great in that high power which has been committed to the scientific surgeon while engaged in applying his knowledge to the detection of deeply hidden crime, or to the removal of those extraordinary tissues of strongly combined circumstances, or those ingeniously false charges, which so frequently gather around the innocent, and appear to threaten him with almost inevitable destruction. There is much that may give pleasure

and confer dignity upon the law advocate who pursues the duties of his profession, guided alike by a high and unflinching sense of justice, and by a strong and laudable desire that his talent and his skill should gain for him the admiration and the gratitude of mankind; but, in the present constitution of our laws, there must ever hang one dark cloud upon the lustre of the most distinguished pleader's career—in the fact that crime, and fraud, and every other foul and deadly sin, are daily seeking to claim in him a powerful, though it may be a deeply unwilling advocate; and thus half his successes must fall upon him infinitely more heavily than the most signal of his defeats. Not so with the medical jurist; he stands forth as the advocate of no cause but that of unsullied truth, and justice unstained by prejudice or any imaginable base alloy. He can deny, with a truthfulness which none may question, that he is the favourer of any party, the hired partizan of any cause; and yet it is upon his dicta, plain, ineloquent, and simple as they may be, rather than upon the oratory of the pleaders, the force of popular opinion, or the wisdom of the judges, that the issues of life and death in legal cases often rest. Where subtle reasoning, fertile invention, strong party bias, and the powerful linking together of circumstantial probabilities, combine either to shield the criminal or to condemn the unjustly accused, the clear demonstrative facts of the medical jurist come forth either to throw an invincible guard around the victim of false accusation, or to descend like the sword of an avenging Nemesis upon the head of the really guilty.

These opinions have recurred to us very forcibly while again glancing over the large number of remarkable facts which Mr. Taylor has culled from the records of medical and judicial experience in illustration of the subject of legal medicine; for it cannot fail to strike the careful peruser of such a work that the manner in which the truths of science combine to throw a light upon innumerable questions in criminal jurisprudence must be received as a convincing evidence that all knowledge which man possesses has been bestowed upon him with the intention that, if well directed, it shall conduce eminently and clearly to the preservation of his physical and moral safety. We think, too, that the collection of facts and arguments before us are altogether of so demonstrative a kind as to justify us in the conclusion that medical jurisprudence bids fair to occupy, at no very distant period, a position among the exact sciences—if such a term can be applied to a branch of knowledge in which so many different sciences are combined. We confidently believe, that when a certain amount of further experience has been obtained upon a few questionable points, and when a certain number of additional corroborative data—which time cannot fail to supply—have been collected, there will remain scarcely a single question which the medical witness can be fairly called upon to decide, in a court of justice, that he may not be enabled to resolve with almost unerring precision. These pages undoubtedly carry out the justice of an observation by a modern writer, who has remarked that, from his knowledge of the manner in which trials for capital offences are conducted in the present day, it becomes almost a matter of impossibility that a person should be judicially put to death for a crime of which he is innocent. We conceive that our profession is justified in maintaining, with honest pride, that it is to the inquiries of medical jurists and toxicologists that this fortunate state of things is, in a great measure, attributable.

We apprehend that most of our readers are acquainted with the contents of the first edition of Mr. Taylor's work. In the present volume numerous and extensive additions have been made; and,—when it is remembered that the whole of the important facts which have been elicited in numerous cases of recent occurrence, strongly illustrating some of the most momentous questions in toxicology, the plea of insanity, &c., have been introduced, together with a very large amount of other novel matter,—it is evident that its previous claims to approval have been considerably increased. The following passage, from Mr. Taylor's preface, will best convey an idea of the additions which he has made to his treatise:—

"Since the publication of the first edition, many trials have taken place both in this country and on the Continent, which, although they have not materially affected

the general principles of the science, have rendered the revision of some statements, and the addition of others, absolutely necessary. In the section on *Poisoning*, I have thought it advisable to make a few alterations, in order that I might be enabled to introduce the principal discoveries made in toxicology during the last two years. Among the changes, may be enumerated the omission of some chemical processes for detecting poisons, and the substitution of others which appeared more simple; a description of the methods employed for detecting poisons when absorbed into the tissues; additions to the sections on arsenic, lead, copper, and opium; new facts connected with the smallest fatal doses of poisons, and the shortest periods for their operation; cases illustrating the fatal effects which ensue from their external application; and, lastly, the strength of all medicinal preparations which contain poison. The chapter on prussic acid has been almost entirely rewritten; and in this edition will be found sections on poisoning by tartaric and acetic acids, lime, phosphorus, phosphoric acid, chromate of lead, elder, and laburnum."—(p. 4).

In looking over a review of the first edition of Mr. Taylor's work, published in the GAZETTE, at a time when the conduct of the journal rested in other hands, we meet with the following expressions:—

"We have the pleasure of meeting the accumulated stores of science and experience on this branch of knowledge condensed and made accessible in this admirable volume. It is, in fact, not only the fullest and most satisfactory book we have ever consulted on the subject, but it is also one of the most masterly works we have ever perused."

The justice of these expressions has now been confirmed by the fiat of the whole of our leading contemporaries, and by the public oral testimony of many high legal and medical authorities. Among those who have already approved and profited by its facts, the work can scarcely fail to meet with strong and eloquent advocates; and we feel that we do the author but simple justice in anticipating that few of those who are at present unacquainted with its contents will, after carefully applying themselves to its study, be at all disposed to withhold their favour and commendation.

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## Proceedings of Societies.

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### ACADEMY OF SCIENCES, PARIS.

#### ON THE DIGESTION AND ASSIMILATION OF AMYLACEOUS AND SACCHARINE MATTERS.

THE following report on a memoir by M. Mialhe on the above subject has just been furnished to the Parisian Academy of Sciences by a commission, composed of MM. Magendie, Flourens, Milne Edwards, and Payen. The subject itself is of high interest in relation both to the physiology of digestion and the pathology of diabetes and other affections dependent on the mal-assimilation of food; it has attracted considerable notice of late, having engaged the attention of several of the best physiological chemists in France, who have investigated it with their characteristic closeness of research, and have obtained many highly important results.

In the memoir which we have been commissioned to examine, M. Mialhe, alluding to the views really admitted in regard to the disintegration of azotised substances in the alimentary canal, observes, that this form of solution is effected by means of an acid and of pepsine,—a phenomenon comparable to the action of diastase upon starch. Although it may be readily conceived also how, under the influence of bile or of some special agent which it may contain, fatty matters may become miscible with water, and thus rendered assimilable, yet we are much less advanced in our knowledge of the reactions which may enable feculent and saccharine matters to take their part in nutrition. This was especially the gap which M. Mialhe proposed to fill up.

Before judging of the results M. Mialhe was enabled to obtain, we have deemed it advisable to complete the history of this important question by collecting together all the facts which have hitherto been published in relation to it. In his "Experiments on Digestion," Spallanzani observed, that in ruminant animals, grass, corn, bread, &c. was not digested unless it had been masticated for a considerable time, and thus freely impregnated with saliva; but he attributed this result to mechanical division. The German edition of the "Archives de Kastner," in 1831, contains a note by Leuch, of which the following is the substance:—"According to Tiedemann and Gmelin the stomach of a dog, which had eaten starch, contained, besides amylaceous masses, a liquid which was no longer rendered blue by iodine, and which contained sugar as well as gum of starch: sugar was also found in

the alimentary canal of a goose which had been fed entirely on starch and water until it died. . . . . According to Montègre, the gastric fluid, after vomiting and fasting, resembles saliva. Such were the considerations," says M. Leuch, "which induced me to undertake some investigations concerning the properties of saliva, and its reaction upon starch, gum, &c. Accordingly, some potato-starch was mixed with fresh saliva and warmed; at the end of two hours the mixture was dissolved, very fluid and sensibly saccharine: there remained some amylaceous flakes in it. Wheat-starch, treated in like manner, furnished similar results. The changes which raw starch underwent were proportioned to the elevation of temperature by which it was rendered soluble; the cooking of farinaceous food, therefore, ought to favour its digestion in the stomach. Saliva *invariably reddened* litmus, but the colour disappeared on exposure to the air, or by the addition of a little ammonia; it did not appear, therefore, that acidity was necessary to this peculiar action of saliva.* Neither sugar of milk, gum, nor gelatine, experienced any change from the saliva. On the other hand, none of the animal substances appeared to act on starch; at least, I was unable to convert any portion of it into sugar by means of gelatine, albumen, caseine, fibrine, sponge, extractive matter of boiled white of egg, or the salivary principle (speichelstoff), nor by *morilles*."

One would conclude from the above quotations that Leuch had really discovered the action of saliva on starch hydrated and warmed, and had observed the soluble and saccharine products resulting from it; and that he had regarded the acidity to have no share in this secretion, or rather that he had considered the saliva to be invariably acid, whereas it is only an exceptional occurrence where it is so. He has, however, mentioned nothing about the active principle of saliva, and he supposed that the starch was transformed by saliva, in his experiments, only from its having been first disintegrated by heat.

Sebastian, in confirming entirely the preceding results, has scarcely advanced the question; he has said that the action of saliva did not depend on its alkali, although cooked starch, when mixed with an alkali, does not react upon iodine; (he doubtless was not aware that in this experiment there is no free iodine, since the alkali at once seizes upon it;) but he adds, that acids re-establish the reaction, and that a slight excess of acetic acid does not prevent saliva from transforming starch. Lastly, he recognised that the cause of the phenomenon resides neither in the salts, in the sulphocyanic acid, nor even in the ptyaline, whilst that the blue combination of starch is itself decomposed. If this latter effect does take place, it must be due to the alkalinity of the saliva or to the elevation of temperature.

Lehmann arrived at similar conclusions, but he supposed that a combination of proteine observed by Simon in the saliva of the horse was the predisposing cause of the metamorphosis of starch; this hypothesis was only supported by another supposition, that acetic acid prevented the special reaction of saliva, by decomposing the proteine compound; but it is probable that in this experiment the interference with the reaction of the saliva was due mainly to the great excess of acid employed.

Thus, then, the fact of the solution of starch and its conversion into sugar by the action of saliva was well established, but the special agent concerned in producing the phenomena was not discovered.

The facts we have just mentioned are the only ones which have been hitherto admitted on the point; they are, for the most part, noticed by Muller, in his Manual of Physiology, who also mentions an observation by Tiedemann and Gmelin, to the effect that the gluten of cerealia was converted into dextrine and sugar during the process of healthy digestion; but it is highly probable that the gluten employed was not pure, and that the starch which it contained had alone undergone the transformations indicated; for without these conditions one could not comprehend how an azotised substance should produce two non-azotised ones.

The numerous experiments of M. Mialhe have quite changed the aspect of the question, by clearing up many doubtful points in the re-actions of human saliva, by discovering an active principle concerned in the transformation of amylaceous substances, and, lastly, by showing that this principle presents the greatest analogy to, if not a complete identity with, diastase. It is well known that the power of vegetation developes this principle every time that amylaceous deposits require to be dissolved and to traverse the tissues in order to serve for new organic formations.

In order to study better the action of saliva on starch, M. Mialhe has proved the ultimate transformation of this substance into glucose, as shew by its saccharine taste, its fermentative property, its becoming brown under the influence of warm alkaline solutions, and lastly its power of reducing the binoxide of copper in salts, or the hydrate in the presence of potassa.*

* [Recent investigations render it pretty certain that during health the saliva is invariably alkaline.]

* In a warm solution of acetate of copper, the reduction is effected by the simple addition of glucose, and acetic acid is then disengaged; but the phenomenon takes place much more readily if a little alkali be added.

These re-agents furnish their indications with sufficient rapidity to have enabled your commission to verify the principal observations of M. Mialhe; in order to the partial transformation of raw starch, it only required to be kept in contact with saliva for 24 hours, at a constant temperature of 40° Cent. (104° Fah.) The reaction on powdered starch was greater, and took place more rapidly; the transformation was effected very rapidly at a temperature of 45° Cent. (113° Fah.), whether the experiment was performed with simple starch, with the crumbs of ordinary bread, or with unleavened bread; lastly, the conversion into sugar was instantaneous when the amylaceous liquid, filtered warm, was submitted to the influence of saliva. We have been enabled to extract from filtered human saliva the active principle, and to prove its power of action, by following the methods of procedure pointed out by the author. The mode of obtaining this active principle, and the changes effected by it on starch in its different conditions, are so similar to what is observed with regard to the active principle of the cerealia, that the author is desirous of comparing, in all their properties, these agents of the two kingdoms. He has not been able to detect the slightest difference between them; and in extracting from saliva its active principle, with all the precautions indicated in regard to vegetable diastase, he has obtained an animal diastase, endowed with equal energy, capable of dissolving and converting into sugar 2000 times its weight of starch, having also its maximum of action in the presence of water, and at the temperature of from 70° to 80° Cent. (158° to 176° Fah.); like vegetable diastase, also, it was neutral, tasteless, and inert, with regard to all other substances on which its action was tried. The same re-agents which cause the reactive power of vegetable diastase to cease, especially tannin, soluble bases, acids in certain proportions, creasote, and various metallic salts, destroy also the power of animal diastase. Its spontaneous alteration gives rise likewise to an acid production, as does that of vegetable diastase, and like it also its aqueous solution loses its characteristic property by the elevation of its temperature to 100° Cent. (212 Fah.)

A number of other common characters, and similar properties, would also seem to justify the special agent concerned in the solution of the amylaceous principle being considered as identical in the two kingdoms; M. Mialhe, however, has preferred to leave the question undecided. We praise his reserve, because, before the question can be absolutely determined, it will be necessary to compare the elementary composition of the products obtained from these two sources; and it is very difficult to procure, in a perfectly pure state, these substances, which are uncrystalline, and very prone to undergo changes whilst moist. It seems to us, therefore, proper, at present, only to admit with the author, that there is an animal or salivary diastase which acts in a manner precisely similar to that of vegetable diastase, and produces like catalytic effects. However the question be determined, the results which have been obtained will be fruitful in important consequences for the progress of physiology; they throw an evident light amidst the vague and incorrect conclusions of previous observers; thus we shall no longer say, with the authors above quoted, that each of the principles of saliva separately has no action on starch, whilst the reunion of these substances presents an energetic solvent property; it will be found that ptyaline, such as it has been hitherto obtained, has lost its most important quality —in fact, that it does not really exist as such in saliva, but appears to be nothing else than animal diastase altered and become inert. In the sure path on which M. Mialhe has entered there are doubtless many important facts and interesting applications to be gathered; we shall find some examples in the essays since forwarded to the same commission, and in other subsequent communications.

We have further to acquaint the Academy of a second series of observations contained in the Memoir of M. Mialhe; they form a natural sequel to the facts we have already noticed. In March 1845, as also in April 1844, the author, in demonstrating what is the principle concerned in the transformation of amylaceous substances and of cellulose into glucose, pointed out one of the principal effects of this transformation. Admitting, first, that the influence of alkalies gives to solutions of glucose the power of reducing binoxide of copper, and then considering that the assimilation of amylaceous and saccharine principles is possible only in the presence of alkalies, M. Mialhe attributed the diabetic affection to defect in the assimilation of sugar, rather than to an increased production of this immediate principle. These new views, in accordance with a large number of previous practical observations, seemed to recommend, (in combination with an animal diet, and the use of the smallest possible quantity of feculent matter,) the employment of alkaline bases, or their carbonates, of magnesia, or even of lime-water. In support of this ingenious hypothesis, M. Mialhe points out how the presence of an alkaline base (already employed by Frommerz) hastens or determines the deoxydizing action of solutions of glucose. An analogous reaction, necessary in order that saccharine matters may take part in nutrition, appeared to him to be checked,

in diabetic affections, by a greater or less want of an alkaline base, which would occasion the excretion of a greater or less quantity of glucose, and would correspond to more or less severe forms of the disease. The author noticed, in a functional affection, this deficiency in the alkaline condition of the blood, and that the morbid phenomena returned so soon as an alkaline mode of treatment was discontinued. Examples of cure, or of marked improvement, under the influence of the method indicated, are described by the author, and appear worthy of interest, though they are not sufficiently numerous; all the circumstances of the phenomena, which are in themselves so complex, it has not yet been possible to study in a manner sufficiently precise to remove all doubt on this point. The report concludes by recommending the Academy to engage M. Mialhe to continue his experimental investigations on the theory and treatment of diabetes mellitus.—*Comptes Rendus*, 23d Mars, 1846.

*** In connection with the above report, the investigations of MM. Bouchardat and Sandras*, and of M. Lassaigne†, may be read with much interest; they attribute (and with much seeming truth) to the pancreatic secretion the same power (even to a greater extent) of dissolving starch and converting it into sugar, as M. Mialhe found to be possessed by saliva; the similarity in structure of the pancreas and salivary glands, as well as the close resemblance which the secretion of the one organ bears to that of the other, renders it highly probable that the functions of the two are almost identical, and that the secretions of both are especially concerned in rendering the amylaceous principles of food fit to be absorbed, and to take part in the nutrition of the body.

## MEDICAL SOCIETY OF LONDON.

April 20, 1846.

Mr. Dendy, President.

*Albuminuria.*

Mr. Philp exhibited an enema syringe, which, by means of an exhausting pump, had the recommendation of affording a constant stream, instead of acting by jets, as was the case with the old-fashioned syringe.

Mr. Fisher related a case of affection of the kidney, in which the most prominent symptom was the presence of a large quantity of albumen in the urine for a period of several months, as was evidenced by testing the fluid with nitric acid and heat. Under the treatment pursued, which was, in the commencement, antiphlogistic, including the use of mercury to ptyalism, followed by the tartrate of iron, the patient got quite well, the urine becoming and continuing normal. The patient shortly afterwards contracted typhus fever, of which he died, and after death the kidneys were found congested only, no marks of disorganization, even under the microscope, being detectable. The case was brought forward to show the uncertainty of the signs of disease as exhibited in some cases; in this instance, in particular, it would seem that a case of Bright's disease had been cured, but the post-mortem examination showed that no such disease had existed.

Dr. Copland had listened to the case with interest, as it confirmed some views which he had advanced in his article, "Dropsy," to show that the presence of albumen in the urine did not afford sufficient evidence that the kidney was in a granular condition. This condition of urine might be present when the kidney was inflamed, or simply congested, as was often the case after scarlet fever.

Dr. Roberts mentioned a case in which albumen was found in the urine, probably as the result of the application of a blister. He mentioned another case, also, in which there was a peculiar fœtid condition of the urine in an old gentleman with enlarged prostate; there appeared to be no cause for the phenomenon, and he asked an explanation of it. The urine was usually acid, but once, after a shivering fit, became suddenly alkaline, but after a sleep, again assumed its acid character.

Mr. Hilton observed that the urine was often offensive when it had been long alkaline.

The President had observed a peculiarly offensive condition of the urine in cases of scurvy.

### CASE OF FRACTURED SPINE.

Mr. H. Jackson exhibited to the Sheffield Medical Society, a portion of the lumbar spine of a man who, in supporting a large body of slates, was overpowered and bent forward, the mass pressing him almost double. He was admitted into the infirmary with every symptom of fracture, and after lingering some months, died. On inspection, the lower portion of the body of the second lumbar vertebra was found to have been fractured, but was re-united. The spinous process had been separated, and also the transverse process. The union had not been complete in the spinous process.—*Provincial Medical and Surgical Journal*, Dec. 10, 1845.

* Archives Generales de Médicine, Mai 1845. See also Gazette Médicale, 25 Janvier, 1845, for an abstract of another essay by the same authors.

† Archives Generales de Médecine, Mai 1845.

# Selections from Journals.

## TOXICOLOGY.

### ON POISONING BY OXALIC ACID.

BY T. G. GEOGHEGAN, M.D. PROF. R.C.S.I.

Dr. Geoghegan presented for the inspection of the Society* the stomachs of three persons who had committed suicide by swallowing oxalic acid. He regretted that he was unable to do much more than exhibit the stomachs, which were kindly placed at his disposal by the medical gentlemen (Drs. Leeson and Mason), who conducted the respective inquiries, as in two of the cases the symptoms were not observed. The first case was that of a stout young man, an officer's servant, who was found dead in a stable in Richmond barracks about fourteen weeks ago; it appeared that not more than twenty minutes previously to the discovery of the body he had been partaking of some drink with a friend, and was then in good health: a paper was discovered beside the deceased labelled "Mortal Poison."

The body was inspected next day. The stomach contained about eight ounces of a dark-brown and viscid matter, resembling coffee-grounds, evidently largely impregnated with altered hematosine, and possessing an acid reaction. The stomach was rather small. Mucous membrane of splenic end and portion of the body of a deep blackish-brown colour, of variable intensity, which permitted in part the moderately coarse ramiform vascularity of the submucous texture to appear through it as a blackish arborescence. The discoloured condition of the membrane extends in narrow streaks into the body of the organ, where the lining membrane is otherwise of an uniform light purple red colour. Near the pylorus the membrane is translucent, and again exhibits the dark ramiform vascularity of the submucous coat. The mucous tunic of the cardiac portion extremely soft and thin, detachable only as a pulp, and in parts eroded. In body of stomach the lining coat is somewhat thickened, but less soft, removable in flakes of one-third of an inch; at pylorus not thickened, and yielding strips of one-fourth of an inch. The other organs were not examined, except the heart, the blood of which is reported as fluid in the right cavities and the colon, the transverse arch of which was much contracted.

The second case was that of a female, æt. 35, who was impelled by frequent severe suffering to an act of self-destruction, which she had previously attempted by other means. On the 22d of December last she was seen by her servant at a quarter before twelve o'clock in her usual health; at ten minutes past twelve o'clock she seemed asleep, but on being spoken to, announced that she had taken something deleterious. She was found dead at half-past one, no remedies having been administered.

*Inspection twenty-two hours after death.*—Stomach contained about a pint of a brownish-black thick fluid of acid reaction, evidently largely imbued with the colouring matter of blood in an altered condition, and admixed with semi-transparent mucus, the mucous membrane being smeared with the same substance. Lining coat of cul-de-sac and part of the body, apparently to a considerable extent, eroded,* so as to expose the bluish-white submucous coat, and where not destroyed, excessively thin and translucent. In the body of the stomach and part of the pyloric end, mucous coat light-brown, very soft, and diaphanous. Near the pylorus, lining membrane of a drab colour, dotted with small white mucous glands, firm, and apparently not thickened. Pylorus contracted to the size of a sixpence, forming a well-marked ring, the surface of which betrays a delicate capilliform vascularity of a dark colour. Owing to the thinness and general translucency of the villous coat, a well-defined ramiform vascularity of a blackish-brown aspect, and situate in the submucous tissue, is visible in the whole extent of the organ, being uniform towards the pyloric portion, and arranged in long areolated streaks at the splenic end and body. Mucous membrane detachable near pylorus in flakes from one-third to one-half inch in length. The small intestines presented externally considerable ramiform vascularity, and the mucous coat was in part inflamed.

The third case is that of B. S., æt. 54, lately a soldier in the 70th regiment. It appeared that on "the morning of February 24, 1846, he seemed gloomy. He returned to his lodgings at 9 A.M., where he obtained some warm water, and mixed with it what appeared to a bystander to be Epsom salts. On observing him burn the paper, and display some agitation before and after taking the dose, this latter person called his wife, who found him vomiting and trembling. With the aid of one or two persons, he was brought to his own room, where he again vomited a quantity of a colourless acid fluid. To this succeeded mortal syncope, in which state he was seen by an apothecary, who pronounced him 'merely fainting,' that nothing was necessary, and that he would very soon be quite well;" an observation followed by the immediate death of the

* Read before the Surgical Society, March 21, 1846.

* Stomach when received had been immersed for fifty hours in the contents.

patient, who survived the ingestion of the poison from twenty to thirty minutes.

*Examination two hours after death.* — The skin and lining membrane of the mouth extremely pale. The stomach capacious: the contents, of a dark coffee-brown colour, exhaled a peculiar acetous odour, and corrugated the fingers after a short immersion. On standing a few moments they are resolved into a light yellowish fluid, almost transparent, and a dark deposit. The latter formed on the surface of the stomach throughout the greater part of its extent a thick coating of a viscid consistence, owing to a large intermixture of slimy semi-transparent mucus. This being removed, the mucous membrane of splenic end is found slightly thickened, gray*, translucent, soft, and easily scraped off by the nail, exposing a bluish-gray submucous coat charged with a blackish-brown ramiform vascularity of moderate coarseness, which is visible through the mucous membrane. The great venous trunks of the organ are also seen turgid with *bluish* blood. In the body of the stomach mucous membrane is of a mild uniform red, intermixed with a few small brown spots. The redness formed by very fine ramiform vascularity, faintly visible to the naked eye, and distinctly so under a lens of moderate power. The lining coat in this situation is decidedly less soft than elsewhere, and betrays no corrosion; it is thickened and detachable in flakes of three-quarters of an inch in length. Submucous coat of body natural. At pyloric end, mucous membrane light brown, rather thick and soft. External aspect of the stomach natural.

In the cases just narrated the appearances observed presented considerable similarity, and exhibited in a striking manner the corrosive action of oxalic acid and its consequences—namely, softening, erosion, and partial gelatinization of the mucous membrane and effusion of blood, subsequently altered by the chemical influence of the poison. It is much to be regretted that the other parts of the body, the blood, &c., were not examined. Although in one of the above instances the contents, including no inconsiderable amount of acid, remained in contact with the coats of the organ, no perforation was observable, the solvent energies being diffused over a large surface. The dose was not ascertained in any of the cases. Oxalic acid and gelatine were discovered readily in the contents in all. The quantity of poison in the contents (an inquiry constantly and ignorantly made by counsel, &c.), in the first case, about three to four grains; a much larger amount in the two latter, especially in No. 3. A comparison of the above cases with those already on record furnish as the ordinary appearances in the stomach of those who have succumbed to the influence of oxalic acid—1. Contents, of the colour of coffee-grounds, consisting of altered insoluble hematosine and mucus, and separating into a supernatant fluid and insoluble deposit. 2. Softening of mucous membrane, with various shades of brown colouration, erosion, or gelatinization. 3. Brownish-black ramiform vascularity of submucous tissue, owing to the imbibition of the acid contents. It is particularly important to note in similar cases the coexistence of this latter condition with the state of contents just described, as the ramiform vascularity, or even diffuse brown discolouration, may and does present itself in many instances as the result of the action of the lactic acid of the gastric juice only. It appears evident that the fatal result in cases of poisoning by oxalic acid cannot be referred to the corrosion of the stomach as its chief cause, but rather to the contemporaneous and energetic action which it exerts in arresting the circulatory forces. In alluding to the most suitable procedure, when the physician is called on to verify the existence of oxalic acid in the stomachic contents, or in a suspected solution, Dr. G. drew attention to the deutoxide of lead or minium, the peroxide of manganese, and the chloride of gold, as *supplementary* reagents, frequently furnishing useful indications. The two former are resorted to by German physicians in public practice.* Their mode of operation is based on the peculiar adjustment of the carbon and oxygen of anhydrous oxalic acid, which, in relation to the present matter, may be viewed as constituted of one atom of carbonic acid, and one of carbonic oxide, the latter of which is resolved into (escaping) carbonic acid at the expense of the above mentioned oxides. The chloride of gold is rapidly reduced by a warm solution of the poison. The two former tests are probably characteristic; the latter but confirmatory.

In complex mixtures, Dr. G. prefers the elimination of oxalic acid in the form of oxalate of lime by means of chloride of calcium, as the latter associates less readily the organic matters present. On the contrary, the acetate of lead generally resorted to carries down much of the modified gelatine of which the mucous membrane is constituted, and which is held largely in solution in the acid stomachic contents; hence, on the liberation of the acid, such gelatine again passes

* When the stomach had remained a considerable time in contact with the acid contents, the gray was exchanged for a very dark clay brown, and the redness in the body of the organ for the same colour.

* Sobernheim and Simon, Handbuch der praktischen Toxicologie, p. 273. Berlin, 1838.

into solution and vitiates the subsequent results. Dr. G. considers it prudent, in case the elimination of the acid by a salt of lead be preferred, to premise the separation of as much of the gelatine as possible by a solution of tannic acid. Dr. G. found the attempt to remove the acid from its organic contamination by means of alcohol, as recommended by Orfila, quite impracticable, the animal matters retaining almost the entire of the poison. When a comparatively pure solution has been obtained by the method proposed, and its nature is about to be investigated by a salt of lime, a portion of the suspected fluid should be added to a saturated solution of the *sulphate*, which Dr. G. has long employed as a substitute for the more soluble salts, as obviating objections from the presence of sulphates, citrates, and tartrates. A useful character in recognition of oxalate of lime is its insolubility in strong acetic acid. In separating the acid in the form of oxalate of lime by chloride of calcium, Dr. G. considers the addition of ammonia inexpedient, as it is liable to throw down organic matter, and superfluous, as the liberated hydrochloric acid, (if the solution be moderately dilute), does not dissolve any appreciable amount of the oxalate. The oxalate of lime when obtained is to be decomposed by a solution of bicarbonate of potass with the usual precautions. The following results were obtained on examination of the stomach of No. 1. When boiled and filtered the fluid which passed through was nearly colourless. A portion tested by solution of sulphate of lime gave a white precipitate insoluble in acetic acid; another reduced (though slowly) a solution of chloride of gold; the remainder precipitated by chloride of calcium, and the precipitate, which was a dirty white, converted in the usual way into oxalate of potass, and subsequently into oxalate of lead. The colourless solution obtained through decomposition of the oxalate of lead by sulphuretted hydrogen exhibited the characteristic properties of oxalic acid, modified in the case of certain of the reactions (marked thus †) by the ultimate retention of a small quantity of organic matter.

*a.* (†) Solution evaporated afforded a brownish-white crystalline matter, acid to the taste, and readily soluble in water.

*b.* (†) This substance was not readily soluble in rectified spirit.

*c.* (†) A portion heated in a tube and on platinum foil, exhaled a urinous odour, became at first light and afterwards dark-brown, softened and adhered to the tube, and finally left a carbonaceous residue, but neither fused nor exhaled white acid fumes.

*d.* Watery solution precipitated white by chloride of calcium, precipitate soluble in dilute nitric, and insoluble in strong acetic acid.

*e.* Solution precipitated white by nitrate of silver, precipitate heavy and granular under lens, deflagrating by heat, with residuum of metallic silver.

*f.* (†) Full blue heavy precipitate by sulphate of copper, becoming light bluish-white when diffused through water.

*g.* The fluid, when warm, immediately reduces a solution of chloride of gold.

*h.* Effervescence of carbonic acid on addition of a little peroxide of maganese or minum.

*i.* (†) Heated with sulphuric acid after evaporation did not distinctly evolve carbonic oxide or acid.

The residuum unconsumed in the above trials was precipitated by chloride of calcium of a pure white colour, not coherent, and apparently free from organic matter. The oxalate of lime thus obtained has not yet been examined.

The above series offers a good illustration of the mixed result afforded in attempting to verify the presence of a poison in a fluid, even slightly contaminated with organic matter, by the employment of *all* the reagents to which an absolutely pure solution is capable of responding.—*Dublin Med. Press*, April 1846.

## MICROSCOPIC PATHOLOGY.

### ON THE REABSORPTION OF PUS.

Dr. Mühlbauer* has given the particulars of a case which are interesting in relation to the disputed question regarding the possibility of the reabsorption of pus into the blood-vessels. The fact that in cases where suppurating surfaces exist, deposits of purulent matter in the substance of organs, and the cavities of joints, without preceding inflammation of these parts, do frequently take place, is undoubted: and the inference that these deposits are effected through the agency of the blood-vessels conveying the elements of pus from parts where they have been formed, and discharging them in the distant places, seems quite natural, but is commonly opposed by the apparently insurmountable difficulty presented by the large size of the pus corpuscles, compared with the calibres of the minute capillary vessels into which they must pass if reabsorbed, and the non-existence of any demonstrable apertures in the walls of these vessels through which the corpuscles might be supposed to make their way. In Dr. Mühlbauer's case, a soldier who had several abscesses of the nature of carbuncle about his body, died, and when examined, there was found in the cavities of his heart a small quantity of thin fluid

* Schmidt's Jahrbücher, Heft ii. 1845.

blood, having a dirty-brownish red colour, and causing a tingling sensation when rubbed between the fingers. Examined beneath the microscope, there was discovered, besides blood-corpuscles, a considerable quantity of large granulated corpuscles, presenting all the characters of ordinary pus-corpuscles, and like these being rendered transparent by treatment with acetic acid, whereupon a cup-shaped nucleus in each was brought into view. Compared with the quantity of blood-corpuscles they were in the proportion of about 1 to 8. The blood generally was decomposed (an effect which invariably attends the mixture of pus with blood out of the body). Several metastatic abscesses were found in the lungs; and the kidneys were degenerated into a yellowish-red homogeneous mass.

### MORBUS ERUDITORUM.

Hone relates, in his Every-day Book, that in 1823, being mentally disordered from his close application, he left home in the afternoon to consult a surgical friend, and obtain relief under his extreme depression. In Fleet-street, on the opposite side of the way to where he was walking, he saw a pair of legs devoid of body, which he was persuaded were his own legs, though not at all like them. A few days afterwards, when worse in health, he went to the same friend for a similar purpose; and on his way, saw himself on precisely the same spot as he had imagined he had seen his legs, but with this difference, that the person was entire, and thoroughly a likeness as to form, features, and dress. The appearance seemed as real as his own existence. He adds, "the illusion was the effect of disordered imagination."

## Correspondence.

### DIRECT ANTIDOTE TO THE SALTS OF COPPER AND BICHLORIDE OF MERCURY.

Sir,—Medical and Chemical writers state that there is no *direct* antidote to the salts of copper known; I have therefore the pleasure of putting you in possession of one, which, from repeated experiments, I am warranted in recommending to the notice of the medical profession.

Ovalbumen, mixed with water, is generally resorted to; but though it may palliate and defer the ill effects of copper, it does not altogether destroy its further solubility in the fluids of the stomach. Iron filings, too, are little to be relied on when given alone; for if they act at all, they are hopelessly slow. Ferro-cyanide of potassium certainly throws down the copper in an insoluble form, but then its use is attended with risk, independently of its causticity on the lining membranes.

The antidote which I am about to propose has no such objections, and is at once simple, safe, and certain; the copper being entirely and almost instantly removed from the solution in its metallic state, its action, I need not say, is electro-chemical. I recommend that equal parts of pure silver dust and iron-filings, perfectly free from grease, should be given, mixed up with water slightly acidulated with either hydrochloric or acetic acid.

If any of your readers will take the trouble to experiment with them upon the sulphate or acetate they will be convinced of the truth of my statement; and if the supernatant liquor be tested with ammonia, only a dark green protoxide of iron is thrown down, which may be again taken up with a little acid, and tested with galls; when, provided it is not too acid, the characteristic inky colour will be produced.

With the bichloride of mercury the same effect is produced; from which I presume the antidote is equally applicable to other metallic salts. Iodide of potassium, liquor potassæ, &c. do not react on the clear liquor, but ammonia and tinct. gallar. as usual detect only iron.

The silver dust alluded to is best prepared as follows:—Add hydrochloric acid to a solution of the nitrate of silver; strain off the chloride, and collect whilst moist; place it in an evaporating dish along with pieces of zinc, and water acidulated with hydrochloric or sulphuric acid; boil, and in a few seconds the pure metal is released from the chloride: when the zinc is all dissolved, strain, wash, dry, and keep for use. Both silver and iron-filings should always be kept on hand.

I find that in order to produce a negative effect on the bichloride of mercury, at least three or four times the weight of each metal is required for the quantity of the poi on swallowed; and as the salts of mercury and copper differ in their ratio of solubility in water, it would appear that double that quantity is necessary to precipitate the copper.—Yours truly,

John Horsley,
Pharmaceutical Chymist.

Ryde, Isle of Wight,
April 25, 1846.

P.S. I open my letter just to remark, that on further examination the silver in both instances appears to be coated with the precipitated metals; in the one with copper, in the other mercury.

*** We fear that our correspondent is too sanguine respecting the efficacy of silver and iron-filings as an antidote in cases of poisoning by copper and mercury. A mixture of gold dust and iron filings was recom-

mended some years since by Dr. Buckler, an American physician, in cases of poisoning by corrosive sublimate; and an account of this antidote was published in a contemporary journal*. Orfila tried many experiments with it, but his report is decidedly unfavourable to it, nor do we see how the substitution of silver for gold would be attended with benefit.† Even in the galvanic action on the salts of copper, for every equivalent of copper precipitated, there will be an equivalent of iron dissolved. One metallic irritant is therefore substituted for another. We have repeated the experiment suggested by our correspondent, and find, as he states, that with a good proportion of powdered silver and iron-filings the whole of the copper is speedily thrown down; and on filtration and the addition of ammonia, protoxide of iron only is obtained. We found, however, that we obtained precisely similar results by the use of a larger proportion of iron or zinc-filings without silver; and that with silver, a much smaller quantity of either metal had the effect of entirely separating the copper. This was the only perceptible difference. We beg, in conclusion, to suggest to our correspondent that the true value of an antidote to a poison is determined, not by the observation of its chemical action in a test glass, so much as by the results obtained in administering it to an animal actually labouring under the effects of poison.

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### ON POST-PARTUM HÆMORRHAGE FROM SLOUGHING.

Sir,—Your correspondent, Dr. Hall Davis, in his communication to you, published in No. 956 of the Medical Gazette, having made such a statement in reference to a case of his published in the Lancet some months ago, as must lead your readers to suppose that I had misquoted the words of his report of the case, I must again trouble you to allow me a brief space in your pages to clear myself from this imputation. Dr. Davis, says, "Mr. Adams, not being quite confident, after my last reply, that the hæmorrhage *was* the effect of sloughing, as he *at first* conjectured, now thinks it probable that it arose from laceration, and the more especially that, as there was intense heat in the vagina, the vessels there must have been in a preternatural state of activity, and any of those slight lacerations which *so frequently* occur in delivery, more especially in instrumental delivery, would naturally occasion a serious discharge of blood." In reply, I may here observe that I did not allow my patient to wait until there was *intense heat in the vagina*, which he gives as a quotation from my paper. The expression is, "*the parts were getting heated.*"—The following extracts from Dr. H. Davis's Report of his case, published in the *Lancet*, Sept. 6th, 1845, will, however, show that I have not misquoted him.

"CONTRIBUTIONS TO THE PRACTICE OF MIDWIFERY. BY J. HALL DAVIS, M.D. PHYSICIAN TO THE ROYAL MATERNITY CHARITY.

*Protracted labour.—Unfavourable position of the head—Distended bladder——intense heat of the vagina, attended by brownish discharge—delivery by craniotomy—removal of placenta, followed by internal hæmorrhage and collapse, &c.*

At half-past twelve in the day (Friday, Feb. 14, 1845), I was requested by a surgeon to visit a patient in labour of her *first* child * * * Examining per vaginam, I found the passage *intensely* hot and dry.** At six I was requested to repeat my visit. There had been no lack of pain, but no perceptib e advance had been made. There was now a brownish, somewhat fœtid discharge from the vagina. I applied the forceps, but no advantage was obtained after a fair trial, and, fearing mischief, I perforated and delivered with the guarded crotchets. The placenta was removed by the surgeon in attendance at the end of twenty minutes, having been thrown off by the natural efforts into the vagina; at the same time pressure was applied over the uterus, but immediately the patient was seized with symptoms of collapse; the breathing became laborious, and nostrils dilated widely with each expiration; the extremities cold and clammy; no pulse could be felt at the wrist; the patient perfectly pallid; no hæmorrhage was going on externally. I passed my hand into the vagina, and removed a large clot of blood; then a quantity of fluid blood escaped; in all, there was not less by measure than 30 oz. * * * The hand was introduced into the uterine cavity; very firm grasping pressure was applied to the uterus * * * We relieved one another during an hour in the duty of compressing the uterus," &c.

This is Dr. Davis's case, alluded to by me in my paper on Floodings in the Medical Gazette, No. 947, p. 145, and which I there connect with a case of my own having similar characters, and offer it as a conjecture that in both cases the hæmorrhage probably arose from sloughing. I still think that most people will admit that this opinion of mine is by no means devoid of plausibility. I will not occupy space in your journal, however, in again arguing this point, and shall merely remark, that in a case of labour

* Lancet, January 1842.

† See the Annales d'Hygiene et de Médecine Legare, for October 1842.

protracted for four or five days, in which there is "intense heat, with a brownish, somewhat fœtid discharge from the vagina," I cannot but think that there must be "preternatural activity of the vessels in the vagina," and considerable risk of sloughing to a greater or less extent. Indeed, was not this "the mischief" which Dr. Davis says he feared, and to prevent the occurrence of which he had recourse to the operation of embryulcia? As he now admits that the probable existence of sloughing in my case is sufficiently accounted for by the length of the labour, I am sure it will be conceded that the same remark applies equally well to his own case as to mine. The great point of difference in the two cases is the plan of treatment. He introduced his hand into the uterine cavity, and with the aid of an assistant applied firm grasping pressure to the uterus for the space of an hour; whereas I did little more than expose my patient to cool air, and apply cold water to the external parts. And here I would beg leave to press it upon the attention of Dr. Davis, that, under my simple plan of treatment, the result was as satisfactory as under his mode of practice, while beyond all dispute my patient was spared an incalculable amount of suffering to which his was exposed. If the perfection of medical practice be, to cure the patient *cito*, *tutè*, *ac jucundè*, it must be admitted that the established mode of treatment in *post-partum* hæmorrhages is sadly deficient with regard to two of those requisites—being at the same time very painful and very hazardous. But I must not trespass further upon your time and that of your readers, by enlarging upon this topic.—I am, sir,

Yours obediently,

FRANCIS ADAMS.

Banchory, April 13, 1846.

*** There must evidently have been a misunderstanding between our correspondents respecting the case referred to. After this explanation we shall be glad to insert any additional facts or cases from Dr. Davis or Mr. Adams; but, for the sake of our readers and the pressure on our pages, we must decline the insertion of any more letters on a subject which so easily admits of settlement by private correspondence.

# Medical Intelligence.

### FRENCH REPORT ON THE PLAGUE.

We have not yet noticed the Report on the Plague and Quarantine, lately presented by M. Prus to the Academy of Medicine; bu we intend shortly to lay before our readers the most important conclusions at which the Committee have arrived. We learn, from the *Gazette Medico-Chir.* April 25th, that there is some difficulty in carrying out the improvements in the French quarantine system, which this report shews to be necessary. The difficulty consists in the fact, that the adoption of the suggestions in the report would lead to the immediate dismissal of a whole host of officials, who profit by the maintenance of things as they are. A similar difficulty in the way of improvement, although, perhaps, to a less degree, exists in this country.

### MEDICAL SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS.

It is announced that many of our professional brethren in Paris are forming themselves into a society for the prevention of cruelty to animals. M. Pariset, Secretary to the Academy of Medicine, has been elected President of the Society; and in a very warm discourse, he painted, in strong language, the deplorable *social* condition of horses and calves, the latter being commonly transported from place to place with their legs tied and their heads downwards! M. Flandin has been appointed Vice-President. The physiological experiments of Magendie have long since, we believe, come to an end, or the Society would have found good employment in watching the proceedings of their physiological confrère.

### ANATOMICAL MODELS.

Guillaume Desnoues, a French physician, was the first who conceived the idea of representing in wax the form and colour of the various parts of the body. This was in the year 1701. His invention received the approval and encouragement of the Academy of Sciences. In modern times M. Felix Thibert has carried this art of imitation, by a new process, to very great perfection; and he has also succeeded in rapidly producing fac-similes of the preparations when once made. His plan has received the approval of the Parisian Academies; and the Institute decreed to him the Monthyon prize as a reward for his invention. In this way duplicates of rare pathological specimens are easily obtained, and may be kept conveniently arranged.—*Gazette Médicale*, April 25, 1846.

### PSESERVATION OF BODIES—ANTI-PUTRESCENT LIQUIDS.

M. Bobierre claims to have been the first who suggested, in 1844, the use of the sulphite of soda as a disinfectant, and as a means of preserving bodies for dissection. He was, however, led to adopt another method in order to avoid the corrosive action of sulphuric acid produced by the

oxygenation of the sulphite in contact with the tissues. This consists in immersing the animal substance in a mixture of one part of pyroxylic spirit and three parts of water. It is thereby as perfectly preserved as in alcohol, and at a much less cost.

*** The chloride of zinc, recommended by Sir W. Burnett, is preferable to the sulphite of soda*. There is nothing very original in proposing the use of pyroxylic spirit. It was employed some years ago for this purpose by Dr. Bal ington and Dr. Rees. It is a cheap substitute for alcohol when so rectified so as to be free from tar, otherwise it becomes milky when mixed with water.

### SIGNS OF AN OVERSTOCKED PROFESSION.

Mr. Daniell, of Newport Pagnell, stated, at the general meeting of the National Association on the 17th inst., that "When he commenced practice, he contracted, with new heart and new arms, to attend *five* parishes, from which he received £100 a year! Those identical parishes he now attended, in consequence of certain provisions of the New Poor Law, for £25 a year! They would ask, Why do this? Why not abandon it at once? It was a very uncomfortable feeling to find, that if he declined there were others ready to take the contract and ride over the same ground, and very likely get the private practice that he had spent years in obtaining."

*** We commend this paragraph to the notice of those who have taken up the notion that the profession in England is not overstocked, and who think that more practitioners are wanted, because the present amount of medical duty is more laborious than it should be!

### PAYMENT OF MEDICAL WITNESSES.

There is a general complaint, both here and on the continent, respecting the mode in which medical witnesses are paid for furnishing reports to magistrates in criminal cases. The Belgian government, as we learn from the *Gazette Médicale*, April 25, has recently consulted the Royal Academy of Medicine on the formation of a criminal tariff; and it is proposed that the fees, whether for declarations, or reports made to magistrates, or for evidence given at trials, shall be raised above those which are paid to ordinary witnesses, and that for each day's attendance there shall be a distinct fee.

This is a serious evil in England. Magistrates have no power to order a remuneration for services rendered to them by medical witnesses in cases of misdemeanour. The only protection for the witness is to insist upon his expenses being guaranteed before undertaking the investigation; for the question commonly not merely involves attendance before a magistrate, but a loss of two or three days at the Assizes. Some years since a medical witness, in a case of concealed child-birth, was exposed to the risk of being made a prosecutor as a sort of vicarious representative of the parish-constable! This has been provided for by special act of Parliament*. It is curious to contrast the extreme care with which the costs of *legal* practitioners, who may be required to render professional services to the public, are provided for in all acts of Parliament, compared with the perfect indifference, and even absolute neglect, with which the peculiar services of medical men are treated. We fear that there will be no remedy for this until the interests of the medical, are as numerously and as well represented in the Legislature, as those of the legal profession.

### WESTERN GENERAL DISPENSARY.

Dr. George Day, and Dr. Joseph Mayor, are candidates for the office of Physician to the Western General Dispensary.

### LONDON HOSPITAL.

The subscriptions received at the Anniversary Dinner of this Institution on the 23d inst. amounted to no less than £1659. 12s. 2d. This is a gratifying proof of the manner in which our public charities are supported by acts of private benevolence.

A piece of plate has been presented to Dr. Billing, by his colleagues and pupils, on his retirement from this Institution.

### SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.

The Annual Dinner of this Society took place last Saturday, the 18th inst. at the Freemasons' Tavern, and was attended by about sixty of the members and their friends. Sir Charles M. Clarke, Bart. the President, in the chair. The Chairman, in proposing the health of the Vice-Patrons, paid a hearty tribute of respect to the memory of Dr. Denman, one of the founders of the Society, and the father of the present Lord Chief Justice Denman, whose election as Vice-Patron had recently taken place. The acting Treasurer, Mr. Hunter, referred to the printed report for evidence of the prosperity and efficiency of the Society, but remarked, that the assistance which it annually derived from the benevolence of individuals could not yet be dispensed with.

The donations received amounted to £163.

### REMOVAL OF CARBONIC ACID FROM WELLS AND CELLARS.

The plan for removing carbonic acid where it is collected in such quantity as to endanger life has hitherto consisted either in

* See page 663.

* 1 Victoria, c. 44.

placing in the locality, vessels containing a quantity of slacked lime, mixed with water, or in causing a current of air to traverse the place where the gas is collected. The first process is slow, and the second not always practicable. M. Faucille has lately suggested an ingenious plan for entirely getting rid of this noxious gas. In sinking a well at Vichy, he found that the carbonic acid was evolved in such quantity that the works could with difficulty be carried on. All the usual means for expelling the gas were employed, including free ventilation, and the use of copious shower-baths, witnout success. M. Faucille then fixed upon the edge of the well a small boiler, of the form of the ancient Eolipile, the tube from which was made sufficiently long to reach to the bottom of the excavation. This apparatus, it is well known, acts simply by producing a powerful steam blast. At first the vapour which issued was opaque, but it soon became transparent, and in about thirty minutes the well was so completely cleared of carbonic acid that the works could be resumed. The apparatus was employed until the well was completed. M. Faucille has also used this machine for removing the vapours of sulphuretted hydrogen gas; and it is obvious that it may be easily and safely employed for expeditiously removing noxious gases from drains, sewers, shafts of mines, and other excavations.

If a steam engine were at hand a blast of steam carried from this into the vitiated atmosphere would equally answer the purpose. The Eolipile is nothing more than a portable steam boiler.

### ALLEGED COMMUNICATION OF SYPHILITIC DISEASE FROM AN INFANT TO A NURSE.—ACTION FOR DAMAGES.

A SINGULAR case has just been tried at the Assistant Barrister's Court, Cork. It had been already before the Court, but no decision was come to, owing to the declaration of the medical witness, that syphilis could not be thus communicated. The plaintiff had received a child from the defendant to nurse. The child had a sore in its mouth, but no particular attention was paid to it. In a few days the plaintiff's wife became diseased, and *she diseased her husband*; in fact, *all the family* became ill! The plaintiff's wife having ascertained the nature of the disease, returned the child to its parents. The nurse, who was pregnant, was subsequently delivered, and the child then born was also diseased, and in some time after died of it. The plaintiff's wife, in order to get cured, was obliged to go into a hospital, but she was still labouring under it. For the injury thus done to her, an action was brought to recover the very moderate damages of £9. 4s. 7d.! Evidence was given to shew that the plaintiff and his wife were in good health previously to having the child to nurse; that the child had sores on the mouth, body, and penis, and that it was affected with the disease in a primary and secondary form. Dr. Ahern believed that the child had communicated the disease to the woman, because her breasts were affected, while every other part of her body was free from it. Drs O'Connor and Bull deposed, that the plaintiff's wife (the nurse,) had been under their care for six weeks with secondary syphilis. They had not the least doubt that a child might convey the disease in a *secondary form* to a nurse; and the opinions of Sir A. Cooper, Mr. Colles, and M. Ricord, were quoted in support of this view. Dr. Bull had met with numerous cases where the disease had been communicated by children to nurses. The mother of the child was labouring under the disease. It was admitted that a child might be born apparently free from it, and yet it might subsequently break out in a communicable form, —also that the mother when giving the child to nurse, might not have been aware that it was affected with syphilis. The Court took time to consider its judgment.—*Dublin Med. Press*, April 22.

*** The evidence appears to shew that the disease was communicated to the plaintiff's wife in a secondary form; but as the witnesses state that her breasts only were affected, and there is no evidence to prove that she suckled her husband and "all the family," it remains yet to be explained how all these parties became affected! Is it not possible that the husband was affected before the child was taken to nurse, and that owing to his attention not having been particularly drawn to the possible presence of primary or secondary syphilis, the existence of the disease may have escaped the notice of the physician? The witness says he attended them, and they were free from disease; but he does not swear that they were both entirely free from syphilis in a primary or secondary form. It is also worth inquiring, how it happened that a child put to nurse was labouring under the disease, both in a primary and secondary form.

### KING'S COLLEGE.

THE annual distribution of prizes took place at King's College, on Saturday last. According to Dr. Todd's report the number of students during the year in the medical department was 192, of whom 188 were in actual attendance. There were 22 occasional students, making the total number 214, of which number 160 attended the hospital. The number of patients in the hospital exceeded that of the last year by 3,000, but the funds had not increased in a corresponding degree. Its income was now about

£1,270 a year, to which had recently been added £300 a year, derived from the Holborn estate. Arrangements had been made for the erection of a new hospital, and an eligible site of ground had been obtained for that purpose.

### OBITUARY.

On the 23d inst. at his residence, 33, West Street, Brighton, Harry Blaker, Esq. surgeon, æt. 61.

On the 22d inst. at his residence, Sudbury Park, near Harrow, William Attree, Esq. R.H.A. F.R.C.S. &c. late of West Hill Lodge, Brighton, in the 67th year of his age.

On the 25th inst. at Daventry, after a few days' illness, John Lee, Esq. M.D. in the 44th year of his age.

## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

FRIDAY, *April* 24.—R. Cockburn.—B. Miller.—W. Davenport.—W J. Collins.—J. C. Clendan.—G. A. Knott.—E. J. Barker. D. E. Hamilton.—H. Smith.—J. Mullhanny.—S. Chevasse.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *April* 23.—Henry Daubeny, London.—Charles Lowis Norton, Bristol. Henry Beckwith, York.—Charles Nattrass, Sunderland.—Robert Samuel Thornley, Derbyshire.—Richard Barnes Roscow, Haslingden.—Edward Hall, Newtown.—Andrew Truelove Edge, Nedging, Suffolk.—William Evans, Devonport.—Edward Reckett, Hull.—Edward Whately, Great Berkhamstead.—William Brinton.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, April* 18.

| Births. | Deaths. | *Aver. of* 5 *yrs.* |
|---|---|---|
| Males.... 710 | Males.... 516 | Males..... 493 |
| Females . 702 | Females . 451 | Females . 475 |
| 1412 | 967 | 968 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts*, 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 146 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 161 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ..... (Pop. 374,759) | 188 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ..... Pop. 393,247) | 210 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ..... (Pop. 479,469) | 262 |
| Total ..... | 967 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Springs; Col. B. of 5 Years.

| | A. | B. |
|---|---|---|
| ALL CAUSES ..... | 967 | 892 967 |
| SPECIFIED CAUSES ..... | 964 | 886 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 155 | 162 188 |
| *Sporadic Diseases*, viz.— | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 84 | 98 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 151 | 155 157 |
| 4. Lungs, and other Organs of Respiration ..... | 318 | 271 294 |
| 5. Heart and Blood-vessels ..... | 30 | 26 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 93 | 65 72 |
| 7. Diseases of the Kidneys, &c... | 12 | 7 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 11 | 9 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 11 | 6 6 |
| 10. Skin, Cellular Tissue, &c. .... | 4 | 1 2 |
| 11. Old Age..... | 55 | 60 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 30 | 25 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 10 | Convulsions .... | 52 |
| Measles ..... | 15 | | |
| Scarlatina ..... | 13 | Bronchitis ..... | 47 |
| Hooping-cough.. | 44 | Pneumonia..... | 73 |
| Typhus ..... | 36 | Phthisis ..... | 147 |
| | | Dis. of Lungs, &c. | 15 |
| Dropsy..... | 10 | | |
| Sudden deaths .. | 8 | Teething..... | 15 |
| | | Dis. Stomach, &c. | 10 |
| Hydrocephalus .. | 31 | Dis. of Liver, &c. | 9 |
| Apoplexy..... | 30 | | |
| Paralysis..... | 18 | Childbirth ..... | 6 |
| | | Dis. of Uterus, &c. | 3 |

REMARKS.—The total number of deaths was 75 above the vernal and 1 below the annual average. The deaths from Zymotic diseases, with the exception of hooping-cough, were also below the averages. The mortality from this disease has abated. It is worthy of note that of the 10 deaths from small-pox, 6 occurred in individuals between the ages of 15 and 60. Deaths from diseases of the lungs, were much above the average. In the South districts, the mortality was above the averages. In the others, it was below.

## METEOROLOGICAL SUMMARY.

| | |
|---|---|
| Mean Height of Barometer ..... | 29·67 |
| ,, ,, Thermometer[a]..... | 50·4 |
| Self-registering do.[b] ..... | max. 78·4 min. 34· |
| ,, in the Thames water. | — 54· — 49· |

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·4: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was half a degree above that of the mean temperature of the month (49·9°). The extreme hebdomadal range in the self-registering thermometer was 44·4°.

## NOTICES TO CORRESPONDENTS.

Mr. E. Copeman's concluding paper is unavoidably postponed until our following number.

Dr. T. Mayo's communication next week.

Dr. Camps's contribution has been received, and will have early inser ion.

Dr. Percy.—We should like to have the paper on Diabetes as soon as possible.

*Received.*—Dr. Little.—Mr. Dorrington.

## RESEARCHES ON STRICTURE OF THE URETHRA.

By L. Auguste Mercier, M.D.

[*Translated for the* London Medical Gazette.]

[Concluded from p. 631.]

We have next to consider how this especial proneness of the commencement of the bulb to stricture is to be accounted for. It is not that inflammation is more intense at that part than elsewhere; for in acute gonorrhœa (and it is to gonorrhœa that stricture most frequently succeeds) inflammation is most severe and obstinate at the fossa navicularis, and in chronic phlegmasiæ the affection generally appears more aggravated the nearer we carry our examination to the neck of the bladder; nor is it that Wilson's muscle keeps this part habitually closed, for this fasciculus exerts its action more upon the membranous portion. The explanation I would suggest, without attaching to it too much importance, is the following:—A stricture will be more prone to contraction, and will contract more rapidly, the more highly vascular it is. Suppose, then, inflammation in the prostatic region, kept up by the follicles of the gland, extends to the bulb, what will be the consequence? The prostatic part, being held firmly in a state of extension by the body of the gland, which forms, as it were, an external skeleton to it, will not contract; indeed, for the portion of the urethra which traverses the prostate to be materially lessened in diameter, the gland must almost necessarily be in some degree destroyed, as is remarked in the case of M. Vottens, already quoted. The membranous portion may feebly and slowly become contracted; but the posterior part of the bulb will, from its excessive vascularity, undergo this process much more rapidly. Suppose, then, the same action going on in the parietes of these two portions of the canal; the contraction of the membranous being slower than that of the bulbous, will be still further retarded in consequence of the impediment to the passage of the urine through the more contracted part. The membranous portion might even dilate from this cause, and the transformation it had already undergone would favour such dilatation; for fibrous tissues contract when left to themselves, but, on the contrary, expand when subjected to long-continued and often repeated efforts of distension. I have, I believe, proved that partial dilatations of the heart result from transformation of muscular into fibrous tissue; and are attributable to the extensibility of the new tissue being continually acted on by the blood. What I have now said respecting the membranous portion, receives confirmation from my having several times seen the structural alteration which created stricture at the bulb extending to the membranous portion, without in any degree lessening its calibre.

The most frequent seats of stricture, after the bulb, are the fossa navicularis, then the region corresponding to the root of the scrotum, and lastly the orifice of the meatus.

With regard to the neck of the bladder, I am not acquainted with a single authentic example of greater weight than the following, extracted from the work of Chopart:—"A man, 55 years of age, had retention of urine, apparently proceeding from stricture of the neck of the bladder, into which I found it impossible to introduce any kind of sound; but a quantity of blood escaped from the urethra. The extreme distension of the bladder, and other circumstances, induced me to puncture that viscus above the pubis. By this means the urine was discharged, but inflammation extended in the abdomen, and the patient died on the third day after the operation. We found the parietes of the urethra in several places callous, the verumontanum indurated, the neck of the bladder raised and distorted towards the right side, and the canal so contracted that a stylet could hardly pass; its dense walls were confounded with the prostate, which was indurated and much more bulky in the left lateral lobe than the right. The internal surface of the bladder presented many firm columnar fasciculi and some cellular protrusions of the lining membrane." I have elsewhere shewn that nearly all the supposed strictures of the prostatic region and neck of the bladder are merely senile enlargements of the prostate, or of the vesico-urethral folds. It is, indeed, demonstrable that, in prostatic enlargement, the urethra, so far from being contracted, as most authors believe, is dilated; and that in both these morbid changes retention of urine is solely attributable to deviation of the canal and its loss of parallelism with its internal orifice. Probably, however, in the case just quoted, this orifice was really contracted, for the parietes were "dense, and confounded with the indurated prostate;" its deviation towards the right side, and the smaller size of the corresponding lobe, lead me to think that this portion of the gland had been partly destroyed by suppuration; and the hardening of the venumontanum, and the callosities of the urethra, bear witness of the existence of intense inflammation at some period more or less remote.

### *Complications and effects of stricture of the urethra.*

It is not unusual to find stricture accom-

panied with some complication. Sometimes there is inflammatory redness in a more or less considerable extent of the canal, which, if met with only behind the point of stricture, may be simply the effect of irritation produced by the urine at that part; but it is often found before the stricture, even in persons who have not undergone any local treatment, and we must then deem it either a relic of that inflammation from which the stricture originated, or the result of some constitutional defect, attracted and fixed to this spot by the primitive inflammation, or the stricture itself. Oftentimes this complication is unaccompanied by discharge; or rather the discharge is so slight as only to be expelled with the urine; but there hence arises in the canal a degree of irritability which renders the treatment extremely difficult.

The most frequent complications, however, are those resulting from the obstruction the stricture opposes to the flow of urine. This fluid, propelled by the contraction of the bladder, exerts, when impeded, a pressure which dilates the canal; but unless the passage be quite impermeable, the urine eventually escaping, the parietes again close upon themselves; and as this pressure is only exercised at comparatively distant intervals, there would not probably so speedily ensue any considerable dilatation, were not the elasticity of the tissues destroyed by inflammation. Occasionally ulcerative action takes place behind the coarctation, and consumes, partially or completely, the parietes of the urethra, and even the stricture itself*. In this latter case the course of the urine my be spontaneously re-established; in the former, the results are not so fortunate, but vary, as ulceration is more or less rapid: if it proceed sluggishly, the tissues having had time to become condensed before being laid in contact with the urine, a circumscribed abscess only forms, which commonly terminates by opening externally, and gives rise to urinary fistula. If the destruction of the walls of the urethra be quick, the urine then infiltrates into the cellular tissue between the different organs, and, spreading far and wide, causes sloughs, the separation of which produces frightful denudation. But generally before this takes place, before even the dilatation of the urethra has become considerable, the lacunæ of Morgagni are enlarged, and form small accessory cavities, which I have seen ramifying to a depth of upwards of four lines. Does the ulceration I have spoken of commence in these lacunæ? It has appeared to me probable in several cases, but I have had no certain proof of the fact.

It is not uncommon to see the orifices of the ejaculatory ducts dilated, and permitting the semen to escape; the secretory canals of the prostate often present a like disposition; and the prostate has been seen forming a mere shell, into which the urine entered in large quantity, though it is needless to say the urine may produce serious disease by its stay in these cavities; yet I cannot pass altogether without notice the arrest or deposit of calculous matter within them, of which we possess many examples. This matter sometimes forms a bed intimately united with the more superficial parts of the parietes; sometimes it produces isolated calculi in the canal itself, or the parts communicating with it. Sir Charles Bell has represented a stricture an inch and a half before the bulb; behind which the canal is very dilated and furrowed, from an irregular deposit of calculous matter. There is a small stone, a quarter of an inch in diameter, in the same situation, which being free during life, was pushed by the current of urine against the stricture, and impeded the issue of the fluid. The prostate, dilated in form of a sac, is wasted to its fibro-membranous envelope; communicates with the urethra by two apertures about a quarter of an inch in diameter; and contains a small free calculus. A rent of the membranous portion, and extravasation of urine, caused death after ten days of suffering*.

With the exception of dilatation of its ducts, and sometimes the formation of abscess in its substance, the prostate is seldom altered from stricture. Considering, however, what has been said of the inflammatory nature of the hypertrophy of which it is so often the seat in advanced age, this change might be thought frequent when the urethra is affected with stricture; and it has actually been affirmed, but in my opinion erroneously, to be so. I have even remarked in elderly persons who have died with this disease, the prostate smaller and its tissue less altered than the age alone of the deceased would have led me to anticipate. I may, perhaps, be allowed to dwell rather longer upon this complication than the foregoing ones.

Ever since I first announced, early in 1839 †, the small influence of stricture of the urethra over enlargement of the prostate, my assertion has been much criticised; and yet many cases have seemed to me to corroborate it. I have heretofore shewn that those adduced by Sir Everard Home, in support of the directly contrary opinion, are very far from militating against mine; and that in the only case elucidated by an autopsy, the prostate was so little swollen that the author could not refrain from

* Sir C. Bell, Engravings, &c. pl. v. fig. 1.

* Engravings, &c. pl. ix. fig. 2.

† De l'infl. que le Rétréciss. &c. p. 17.

expressing his surprise*. The same author, in his "Treatise on Stricture of the Urethra," speaks of a man aged 32, who had two strictures; one of which was situate at the bulb, and had been cauterised every other day for several months. The patient died in consequence of serious disease of the urethra, produced by the caustic; yet the prostate was, notwithstanding, in nearly a natural state†. In the "Bulletins de la Societé Anatomique," for 1842, is the case of a man aged 46 years, who had one stricture at the bulb and another before it, but who presented after death a prostate of small size, and healthy. In an old man of 63, whose bulb was the seat of an extremely firm fibrous stricture, M. Petrequin found the prostate but little tumified, and presenting nothing remarkable ‡. Indeed I do not know a single well-marked case wherein stricture has been found post-mortem with the prostate much larger than the age of the subject would have accounted for. On this topic, reference is usually made to incomplete cases; and obstacles at the neck of the bladder, produced merely by those muscular folds which were the special subject of my late work §, have frequently been mistaken for enlargements of prostate: in fact, since my attention has been directed to this complication, I have met numerous instances of it. One preparation I possess was displayed at the Anatomical Society, for the purpose of demonstrating how slight a stricture may lead to complete retention. The patient had been compelled to apply at the hospital, where an instrument was introduced and left in, but he quickly sank; and at the autopsy there could only be discovered, in explanation of the dysuria, a scarcely perceptible bridle. I proved, however, that the posterior border of the neck of the bladder formed a muscular fold sufficiently prominent to close the orifice completely when the parts were replaced in situ. In perusing my older cases (those consequently which were collected under the influence of systematic views), I found the following:—In a subject aged 55, who died in 1834, from the effects of traumatic stricture of the urethra, with fistula, two false passages were found through the posterior border of the neck of the bladder. This circumstance indicates extreme prominence of that border; and as I did not note the state of the prostate, it probably presented nothing particular. In an old man of 78, who died Oct. 14th, 1834, with stricture at the orifice of eight lines in length, the prostate and the prostatic region offered nothing remarkable; but at the situation of the cervix vesicæ, the canal was carried forwards, the posterior lip encroaching upon the anterior.

In 1836 I performed at the Hôtel Dieu, with my colleague M. Rampon, the examination of an old man, for 15 years the subject of stricture of the urethra, which had twice been treated by dilatation. On his admission into the hospital, the employment of some force had been necessary in order to pass the stricture; and even when this was passed, so much resistance had been experienced in entering the bladder that the metallic instrument became curved. We found at the level of the symphysis pubis a white and fibrous stricture nearly a quarter of an inch in length, and, commencing at this point, a false passage in state of suppuration, which traversing the left lobe of the prostate opened into the bladder. Beneath this gland the false passage communicated with the urethra, which was dilated behind the stricture, and connected with several large depôts of pus. The posterior margin of the neck of the bladder formed a projection of two lines and a half from behind forwards; and beneath, in the substance of this fold, was the commencement of a false passage.

On the 5th of August, 1839, attending the clinique of M. Velpeau, I assisted at the autopsy of a person of 60, admitted the previous evening for retention of urine, on whom the 'interne' on duty could not succeed in passing an instrument. Twelve lines in front of the bulb there was a very close stricture, one eighth of an inch long, lined with mucous membrane, the peculiar whiteness of which extended with gradual diminution for more than four lines towards the glans. The spongy tissue was similarly changed, being white and deprived of areolæ in proportion to its proximity to the stricture, at the situation of which it became fibrous and much attenuated. Behind the stricture the urethra was a little dilated, and the mucous membrane reddish and thickly studded with small elevations, deeper in colour at their apices than in the intervals. In the upper wall at the situation of the stricture commenced a recent false passage four lines deep. All the membranous portion from the bulb to the prostate was dissected by an abscess with blackish parietes having no apparent communication with the urethra. The prostate was very small, measuring less than eight lines from above downwards; and yet the posterior margin of the cervix formed a valvular projection of greater prominence than natural, so that a strongly marked depression was produced beneath it. The bladder was slightly diseased and hypertrophied.

Again, in a person of 55, of whom I have

* See my Recher. sur les mal. urin. des hommes agés, p. 202.

† Ducamp, Traité des rétent. d'urine, p. 165.

‡ Examen. Méd. t. ii. p. 253.

§ Rech. sur une cause fréq. et peu connue de ret. d'urine.

already spoken, who had stricture of the membranous portion and bulb, the posterior margin of the cervix formed a transverse projection excavated in furrows by the use of sounds, though the prostate was no larger than that of an adult.

In fine, then, while hypertrophy of the prostate, with which strictures are commonly thought to be often complicated, is on the contrary a rare complication (so rare, indeed, that it would seem as if stricture prevents the glandular enlargement); we find them, on the other hand, frequently accompanied with projection of the posterior margin of the neck of the bladder in those musculo-valvular folds to which I drew attention in a former work.* I have said a few words on the origin of these valvular folds, in speaking of spasmodic deviations of the urethra; and in connection with the symptoms and treatment, their importance is great.

It would remain for me to describe the complications that may supervene in the genital organs, as well as in the rest of the urinary apparatus; to treat of irritability, hypertrophy and consequent inaction, dilatation, inflammation, and perforations of the bladder, and of inflammation of the ureters and kidneys, calculus, &c. but these various complaints, so far as they are the effect of retention of urine, have already been considered in the work just mentioned; and it would be mere repetition to give an account of them here. I may be allowed, however, more particularly to recal to notice certain perforations, which take place spontaneously at the bottom of those sacculi, of which the bladders of persons long affected with difficulty of micturition are almost always the seat; perforations which are exceedingly common, but which nevertheless escaped attention previously to the publication of my own observations upon them†.

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ANCIENT BILLS OF MORTALITY.

John Graunt, citizene of London, in his "Natural and Political Observations on the Bills of Mortality," 1662, says, "It is enough if we know from the *searchers* but the most predominant symptomes: as that one died of *headache* who was severely tormented with it, though the *physicians* were of opinion that the disease was in the *stomach*. Again, if one died *suddenly* the matter is not great whether it be reported in the bills, *suddenly*, *apoplexie*, or *planet-strucken!*"

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* Rech. sur une cause, &c.

† See my "Memoire sur certaines perfor. spontanées de la vessie non décrites jusqu'à ce jour."—*Gaz. Méd.* 1836.

# Original Communications.

## CASE IN WHICH THE RECTUM TERMINATED IN THE URETHRA,

### THE CHILD LIVING UPWARDS OF EIGHT MONTHS.

By Joseph Williamson, M.D.
Aberdeen.

[Concluded from p. 770.]

The next case resembles in many of its particulars the one which I have related. I take the following account of it from a paper by Mr. Fergusson, in the Edinburgh Medical and Surgical Journal:—"It would appear that the child was not remarked as having any malformation till about the age of four months; as Flajani says that it was at this time only that no trace of any aperture could be perceived. The fæces were passed by the urethra, and in other respects it was perfectly well. The perineum and scrotum were in a healthy state; the belly frequently became tumefied; and, until the fæces were voided, the child appeared to suffer much. Matters continued in this state for three months, the mother constantly refusing to submit to any operation. At the end of this period, however, it became absolutely necessary that an operation should be performed; and one was accordingly attempted in the perineum, but seems to have failed completely, for no feculent matter was discharged. An hour afterwards fæces were passed by the urethra, which relieved the child; and it lived for two months more, under great occasional distress. At nine months old it died, convulsed, with its belly excessively distended. On examination after death the colon and greater part of the intestines were found very much distended with hardened fæces. The rectum was three inches in length, and terminated by a canal four inches long, which, passing under the prostate gland, opened into the membranous portion of the urethra. At this part a cherry-stone was found sticking, so as to prevent the passage of the fæces along the urethra."*

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* Edin. Med. and Surg. Journal, vol. xxxvi., p. 366, and Flajani, Osservazioni di Chirurgia, tom. iv., obs. 39.

Saint Hilaire refers to a case related by Bravais, where the child lived four months and a half. The intestine here passed under the bladder, and opened into the urethra, which appeared to be merely the continuation of the gut.*

Dr. Blundell had a preparation in which the rectum communicated with the urethra. It had been asserted to the Doctor that the child from which this was taken had lived many months, but he could not obtain good authority for the fact.†

A more recent case is contained in the American Journal of the Medical Sciences,‡ from which it is quoted by Dr. Montgomery, in his excellent paper on the Abnormal Anatomy of the Fæces (Cyclopædia of Anatomy). The particulars are recorded by Dr. Steel. The child was observed, one or two days after birth, to have feculent matter mingled with the urine discharged from the urethra. There was not the slightest vestige of an anus.

For the first three or four weeks the child continued fretful, and was evidently declining in vigour and growth; but from that period to a short time before its decease, it apparently suffered but little, nor did its growth or strength seem to be at all impeded. It was born on the 13th of April, and in the latter part of the ensuing March its bowels became obstinately obstructed; the scrotum enlarged, and became extremely tender; and on the 30th of the same month it died. On dissection, two apple-seeds, of a large size, together with a portion of the capsule or hull which surrounds them, were found lodged in the urethra about three-fourths of an inch from its termination; they were so situated as completely to obstruct the passage; and a small opening had been formed immediately behind them in the urethra, through which some of the contents of the bladder had been effused into the cellular membrane, and extended to the scrotum, producing inflammation and gangrene, and so causing the child's death. The contents of the abdomen appeared perfectly natural, except the descending colon, which was found to be entirely destitute of the sigmoid flexure; the gut passed along the left lumbar and through the iliac regions, in nearly a straight line to the neck of the bladder, into which, after making an abrupt but imperfect curve, and being suddenly contracted in its dimensions, it was inserted just behind the base of the prostate gland. The aperture which united the gut and bladder into one common receptacle for their respective contents, was of sufficient capacity to admit a large-sized goose-quill; through this aperture the urine found a ready egress into the intestine, where, becoming united with the contents of that receptacle, it was forced back into the bladder, and finally extruded through the urethra. The space between the perineum and the termination of the intestine was occupied by a soft fatty substance, but there was not the slightest vestige of a gut.*

In the female sex it seems probable that the number of cases which may survive for lengthened periods, is greater, in proportion to the frequency of the malformation, than in the male. The two following may be quoted:—

Morgagni heard of a girl at Bologna, who passed her fæces by the urethra, dissolved in the urine. There was no aperture at the anus, and the rectum was supposed to terminate in the bladder.†

A girl, three years of age, had no anus, and passed her excrements by the urethra; a condition of matters which did not affect her health—"*elle avait même un embonpoint remarquable.*" She died without any obvious cause, and an examination of the body shewed that the rectum, curving under the bladder, terminated at the extremity of the urethra, which was of unusual size. A Windsor bean (un feve de marais) arrested at the termination of the rectum in the urethra, was the cause of death‡.

I have next to refer to those cases of this unfortunate malformation in which an operation seems to have been beneficial.

The first is from Third Book of the Praxis Medica Admiranda of Zacutus Lusitanus, Obs. LXXII.:—"Infans natus est ano membranâ obducto. Hic trium mensium spatio, excrementa

* No. xxx., p. 404.
† Actes de Lyon, tom. ii., p. 97.
‡ Lancet, for 1827, vol. ii. p. 770.

* Cyclopædia of Anatomy, vol. ii. p. 336.
† De Sed. et Caus. Morborum, Epist. xxxii. Sect. 4.
‡ Quoted by Fournier, Dict. des Sc. Medicales: Art. Cas rares.

alvina per urinæ vias excrevit. Ruptâ novacula membranâ, evasit felicissime et hodie vivit. Res mira nam quod per inferiorem alvum natura non potest detrudere, pellit per superiorem." The skin alone seems to have closed the intestine in this case, and the operation was therefore an easy one. It is not distinctly stated that fæces ceased to come by the urethra, but it seems probable, from the narrative, that this was the case.

The next case is one of the most interesting which I have met with, and is related by Mr. Fergusson, in the interesting paper to which I have already referred. The child was born twelve hours before it was visited, and was of full size, healthy, and strong. There was no anus, but the skin where it should have been had a brownish appearance. An indistinct tumor could be distinguished, situated at a considerable distance from the surface, but it was impossible to say whether this was the rectum or not. "I made an incision," says the author, "along the raphe of the perineum, from the scrotum to the termination of the coccygeal bones, which could be felt distinctly under the integements. I dissected cautiously in the usual situation of the rectum, but came upon no gut in any part of the of the wound. I exposed the neck of the bladder, of which I was convinced by introducing a curved silver probe into its cavity; a proceeding which I found of great convenience and assistance, in guarding me from injuring the bladder, of which accident there was considerable danger. I took care, when making my incisions, to cut close upon the sacrum, to avoid harm as much as possible. I carried my incisions to the depth of an inch and a half, or as far as I judged to be the upper part of the sacrum; but still no intestine could be felt, and it was therefore evident that nothing further could be done for the child in this direction." On pressing in the situation of the wound, and on the abdomen at the same time, a little dark-coloured fluid came from the urethra, as if it were urine mixed with meconium.

Next day meconium was distinctly passed from the urethra, and there was no longer any doubt as to the existence of a communication between the rectum and urinary bladder. "We then decided," continues Mr. Fergusson, "that the proper operation was to cut into this viscus, and accordingly I made an incision into its lower fundus, as nearly in the mesial line as I could, and a little behind the position of the prostate gland. I was guided in this incision by a straight silver director, which I had introduced into the bladder previous to the operation. To our great satisfaction meconium flowed out after making the incision." This operation was performed on the 4th of March, 1831, and the little patient was alive and in perfect health on the 1st of August of the same year, the date of Mr. Fergusson's paper. The wound had closed so as only to admit of a common-sized bougie, which was occasionally introduced, to prevent it closing altogether, to which there was a great tendency. The fæces passed, either in whole or in part, through the perineum; and where they did not pass wholly through this opening the rest came by the urethra." "What is very remarkable," Mr. Fergusson adds, "is, that, so far as I have remarked, not a single drop of urine has passed by the artificial opening. It has all along passed in a clear stream or mixed with fæces by the urethra."

I had extracted the particulars of this case at considerable length, both because it seemed not improbable that the state of the parts might resemble that of my own case, and because I considered the mode of operating adopted as that best suited to all similar cases. I have since discovered that Mr. Fergusson has given us the subsequent history of his case in his System of Surgery, and as the result was, to a certain extent, highly satisfactory, I must be excused for extracting it:—

"The boy lived and throve till he was six years old, when he died of disease of the lungs. Although it may be doubtful whether there was a sphincter or levator ani here originally, he had the command over the aperture and the urinary apparatus that children usually possess. Occasionally, when his bowels were loose, a few drops of fæces would come by the urethra, and he was wont also to discharge part of the urine by the artificial opening. On several occasions small hard urinary deposits were discharged

from the anus, and I had to extract one about the size of a hazel-nut. Often his mother had to remove small seeds and barley-pickels from the orifice of the urethra, and once she extracted a small portion of bone which he had swallowed in his food. On inspecting the parts after death I found that the bowel terminated in the membranous portion of the urethra, by an aperture about the size of a lancet puncture, and not in the upper end of the bladder as was at first imagined."

Mr. Fergusson gives us an account of another case, operated on by Mr. Lizars. In this instance the rectum communicated with the bladder, and the surgeon had to cut deep before he came upon the gut. The preparation in the possession of Dr. Thatcher showed that a large opening had been made in the back part of the rectum, opposite the upper portion of the sacrum. The child lived in good health for three weeks, when it suddenly died of convulsions. Death seemed to result, not from the operation, but from an abscess containing unhealthy matter, situated over the dorsum ilii, and extending upwards into the canal of the lumbar portion of the spinal column, and probably causing pressure on this portion of the spinal marrow.

Mr. Copland Hutchison operated successfully with the scalpel and trocar, on a child forty-eight hours old, for what was believed to be simply imperforate anus. The child lived more than ten months after, and then died apparently from the irritation of teething. It was noticed for the first time three months after the operation, that the urine was in some degree tinged with fæces, but it was not observed that any urine ever passed per anum. On dissection, "a small valvular aperture was discovered communicating with the rectum, and situated about an eighth of an inch anterior to the caput galinaginis, the aperture into the urethra admitting only of the passage of the thin fæces, being barely sufficient to admit the end of a common probe, but from its valvular structure precluding the urine from passing per anum."*

In May 1833, M. Roux de Brignolles operated with success in a case in which both the anus and urethra were imperforate. The infant had been nearly two days without succour. The urethra was obstructed by a thin membrane, at the base of the glans, which was perforated with a stilette at once, and the urine was voided. The rectum was then opened, after a careful dissection, and the fæces continued to pass freely, till granulations were formed, and contraction of the opening began to take place, when feculent matter began to be voided from the urethra. The wound was now enlarged, and the urine became clear and free from fæces, and continued so till the granulations a second time obstructed the new anus. After the full establishment of this passage by the use of bougies, there was no longer any feculent discharge from the urethra. The border of the anus after a little time assumed the plicated appearance of the natural outlet.

It may be worth remarking, in a practical point of view, that, although the expulsion of meconium with the urine is a sure sign that the rectum has somewhere an opening into the urinary organs, the absence of this sign cannot be taken as sufficient proof that no such connection exists. The communicating foramen or duct may be so small as scarcely, or not at all, to permit of the escape of any part of the intestinal contents, or, if it be large enough for this purpose, the discharge may not take place for some time after birth. Sandenius gives an account of an infant which was born with an imperforate anus, and died on the fourth day after birth. An operation was undertaken for its relief, but proved unsuccessful. On examination the rectum was found united to the bladder by a small duct, about an inch in length. Air could be blown from the one viscus into the other, but the communication was too narrow to admit of the passage of the excrements. In the 21st volume of the Medical Gazette, there is a case related by Mr. Gorham, in which no meconium was passed by the urethra. On dissection the rectum was found "distended with gas and meconium, and terminated in a pouch. At the bottom of this pouch a small foramen was found, with radii of puckered intestine passing from it in every direction. It was of sufficient size to admit a probe of about half a line in diameter, which passed imme-

* Surgical Observations, p. 270.

diately into the urethra." . . . "On passing a probe into the urethra, it entered at one time the bladder, and at another the pouch of the rectum." In Mr. Fergusson's case it was not till an incision had been made in the perineum, that the discharge of a little dark-coloured fluid led to the suspicion that there was a communication between the rectum and bladder. In my own patient no meconium was observed to be passed till the afternoon of the fourth day; and in Mr. Copland Hutchison's case it was three months before any portion of the intestinal contents was observed to come by the urethra. These facts strongly indicate the propriety of carefully inquiring into what has passed from the urethra, before having recourse to any operation for imperforate anus. Should there be a communication with the urinary passages, a director should be passed into the urethra, and whether it enter the rectum or the bladder (and it may be difficult to say into which it has entered) it cannot fail of acting as a guide to the operator. If it has entered the rectum, its groove, on its being withdrawn, may be found to contain meconium. If passed into the bladder it will enable him to avoid wounding the urinary passages. If the groove of the instrument contain meconium it may be again passed, and cautiously cut upon.

Should an opening exist between the two receptacles, and the operation of M. Amussat for imperforate anus, viz. bringing down the intestine to the external wound and fixing it there by suture, be attempted in ignorance of the nature of the malformation, the connection with the urethra may be lacerated, and a fatal infiltration of urine ensue; and it is to avoid this risk in cases where the communication is known to exist, that Amussat advises that the posterior wall only of the gut be brought down to the skin.

I may be allowed to remark, in conclusion, that it is perhaps too much the practice in operations for imperforate anus, to search for the intestine too exclusively in the hollow of the sacrum. In my own case the incision must have passed behind the rectum; and Mr. C. Hutchison, from the dissection of two of the cases which occurred to him (only one, however, communicating with the urinary organs) draws the conclusion, that we must in future make our external incision, and point the trocar, when that instrument is necessary, more forwards in the direction of the bladder, instead of "upwards and backwards, inclining rather to the left of the hollow of the sacrum and natural descent of the rectum," as he had previously recommended.

Aberdeen, March 28, 1846.

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### ON A SOURCE OF ERROR IN SUPPOSED INFANTICIDE. BY DR. SEWELL.

Mrs. B., ætat. 30, married, and pregnant with her first child, was seized during the night with labour pains. Being a refugee from the late fire (in Quebec), she occupied part of a garret, in which two or three other families and some young men were sleeping. Feeling a delicacy at being confined under such circumstances, she suppressed her cries till daylight, when she descended into a lower apartment, in which resided a woman, who had been recently confined, to whom she detailed her feelings, requesting, at the same time, that some warm water might be given her to sit over, to relieve what she described as a great pressure at the lower part of the bowels. She had scarcely seated herself at the edge of rather a high chair, when a severe pain seized her, and before any assistance could be afforded her, (though one or two women were in the room,) the child was forcibly expelled, and fell head foremost on the floor, being killed on the spot. I should have mentioned, that I was sent for immediately after Mrs. B. had descended into the lower chamber, but did not arrive till about twenty minutes after the delivery. The child, which was a remarkably fine one, was perfectly dead, and still attached by the cord to the placenta, which came away shortly after the infant. In the above case, not the slightest suspicion of criminality could attach to the mother; but had the delivery taken place in private, though there would have been ground for a medico-legal investigation, still, with the fact brought before them by the coroner that such cases as that now reported do not unfrequently occur, a jury should be extremely cautious how they return a verdict of wilful murder against the unfortunate mother. — *The British American Journal*, No. 5, p. 117, Vol. 1, 1845.

[The above case is particularly interesting and valuable in a medico-legal point of view, from the fact that the accident occurred in a first labour.—Ed. Gaz.]

## RECORD OF CASES.

By Thomas Mayo, M.D. F.R.S.

Physician to the Infirmary of St. Marylebone.

[Continued from p. 422.]

### On the Vis Medicatrix.

In presenting a series of cases to the public in which treatment advisedly forms a part as prominent as pathology, I am met by a very important topic recently brought forward with great talent and skill, by the editor of the British and Foreign Medical Review. It appears that a philosophical investigation which he has conducted in his 41st number into the claims of the homœopathic practitioners, has ended in convincing him, that these gentlemen have the merit of curing nearly as many patients as those whom I will venture to call regular practitioners.* But neither the hypothesis on which they build their practice, nor the practice itself, pleases Dr. Forbes, or is viewed by him as tending to cure; and under this disbelief in their philosophy and remedial agents, which he presumes to be absolutely ineffective, he has recourse to the supposition that they succeed negatively, that is, by doing nothing, as far as medicine is concerned. To the agency, which the author considers truly effective of the cures imputed to homœopathy, he applies the following strong expressions.† In dwelling so long and expressing himself so strongly on the curative powers of nature, it was the design of the author of the article to remove all rational doubt of the capacity of the vis medicatrix to effect all that was effected by the imaginary influence of homœopathy.

I am not at present concerned with the fortunes of homœopathy, in this controversy between its professors and Dr. Forbes; but I look with great interest at the bearing of the above proposition upon medicine in general. It amounts, indeed, to this, that the vis medicatrix naturæ, not once, or twice, or three times, but in a long series of acute cases, has been as effective of cures, as the application of our recognised medicinal agents. The expressions above quoted from Dr. Forbes are strong, and indicate that his avowed wish "to avoid the abuse, and not the legitimate and rational use of medicines," might carry him very much farther into the avoidance of its use than has hitherto appeared advisable to thinking men, who partake with him in that wish.

The following passage in italics from the communication of Dr. Andrew Combe to Dr. Forbes, on the subject of his views, which communication Dr. Forbes describes as being "of high stamp and admirable tendency," is even more energetic in the same direction. "The one great principle, to which a comprehensive review of homœopathy, allopathy, hydropathy, and all other systems of medicine seem irresistibly to lead, is that *in all cases and on all occasions, nature is truly the agent in the cure of the disease; and that as she acts in accordance with fixed and invariable laws, the aim of the physician ought always to be to facilitate her efforts by acting in harmony with, and not in opposition to those laws.*" *

This passage claims, indeed, serious attention. In one sense nature is undoubtedly the agent in the cure of all disease, in so far as all the means achieving that purpose are functions and powers existing in nature. But in the more limited sense in which Dr. Combe seems, from his expressed aversion to medicinal interference, to intend to use the agency of nature, namely, as an agency which excludes a large portion of those provisions which art elicits by an interrogation of nature, the proposition is abundantly erroneous.

The skill and forethought thus excluded from the category of natural provisions are among the highest gifts of nature. The civilised philosopher, who uses these qualities for the recovery of the sick, is as natural a being as the savage, who lets him die or get well, agreeably to the laws of the disease. But Dr. Combe observes, as above, that in the cure of disease the aim of the physician

* The reviewer asserts that Dr. Heischman's tables substantiate this important fact, that all our ordinary curable diseases are cured, in a fair proportion, under the homœopathic treatment. No. 41, p. 243. This assertion comprehends pneumonia, pleurisy, bronchitis.

† No. 42, page 503.

* British and Foreign Med. Review, No. 42.

ought always to be to facilitate the efforts of nature, who works by fixed and invariable laws, and therefore to act in harmony with these laws, and not in opposition to them. That diseases follow laws and a course imposed by nature is most true; this I presume to be the meaning of Dr. Combe; it is moreover equally true, that in many cases this law, or course, though it is quite compatible with the completion of the disease, is incompatible with the life of the patient. Thus, when pneumonia proceeds from its congestive to its inflammatory stage, then onward into hepatization and purulent infiltration, can anything be more natural or more fatal than its progression? As a disease in which the so-called natural treatment is applicable, that is, in which most of those resources must be excluded which thought has elicited from the stores of nature, Dr. Combe has most unhappily selected pleurisy; and here, supposing the exciting cause not to have been violent or long continued, he recommends the absence of medicinal agents. He even argues in favour of effusion being allowed to take place. The possible slowness of its unassisted absorption, its injurious influence upon the investing membrane of the thoracic cavity, the gradual substitution of a purulent for a serous effusion, where bloodletting and the use of mercury might have forbidden that event, is left unheeded. Surely these are contingencies not to be hazarded with a view to follow laws of disease which lead to structural disturbance! The laws and history of ague have been most attentively and wisely studied for many ages; not in order that our practice might be in union with those laws, but that it might interrupt and break the sequence of phenomena which would take place under them. If the disease be permitted to exhaust itself under this sequence, the patient is probably exhausted *pari passu*. A one-day fever is perhaps the best subject for the principle of non-interference. But in many such cases it is highly probable that a fever which otherwise would have run a much longer course, has been rendered ephemeral by treatment. If it run its one-day course of pyrexia unmodified by such treatment, and ends in proportionate collapse, is not the probability stronger, that it will be resumed the ensuing evening, than if antimonials and salines had rendered its effervescence less violent?

But what are the lights which analogy supplies us on this subject? Do moral diseases, the close relation of which to physical structure will be admitted by Dr. Combe, do these terminate favourably by being left to follow the laws of the human mind? Is a boy whose organization disposes him to thievery likely to improve, by the tendency to thievery being allowed to work itself off?

The following has been well laid down by Dr. Forbes as a desirable object in the present stage of medical research. "To endeavour to ascertain much more precisely than has been done hitherto the natural course and event of diseases when uninterrupted by artificial interference; in other words, to attempt to establish a true natural history of human diseases." Now it must be admitted that on the one hand to ascertain the natural course of disease, on the other hand to allow it to follow that course, to take advantage of opportunities of information as to the natural history of disease, and to leave disease immodified by treatment, are very different operations.

It is impossible in discussing this subject to overlook the fundamental difference between the idea of laws in reference to those matters in which we are responsible agents, in which our conduct constitutes us right or wrong, in which self-management is a duty, and the idea of those laws which the exact sciences reveal to us. Both are legitimate subjects for our careful consideration, with this important difference, that we can profit ourselves only by strict obedience to the first; while the latter are given us as subjects of modification, or even of contravention in reference to our experience of their tendencies.

I have noticed with peculiar attention the dictum above quoted from Dr. Combe's letter, because he seems to consider it the keystone of that arch on which he would rest the science of therapeutics. "Nature ought never to be thwarted." Yet in that letter observations constantly occur, which

suggest much practised experience in spite of this dictum. Thus, as distinguished from his suggestions in favour of leaving pleurisy to pursue a course unimpeded by remedies, I would notice his observations in relation to the treatment of small-pox and of measles.* "In small-pox," he observes, "or measles, the excitement often runs very high in the first stage, and means are required to moderate it. But if we bleed too freely, it is well known that the eruption, which we shall suppose to have come out, will generally disappear, and increased danger to life ensue, because the order of nature being forcibly interrupted some internal disease is brought on, or the system sinks exhausted." Now here we have observation of the laws of nature ably supplying us with the means by which she may be baffled; care being duly taken, that the blow which she aims at us at one moment may not be counteracted by means which may disable us from meeting a blow which she will aim at us the next.

The above remarks have more the character of a declaratory assertion in favour of medicinal treatment, than of an argument in support of it. It is, in truth, my impression that the *onus probandi* rests with the eminent reviewer, who propounds the fact above stated; namely, that there is no rational doubt of the capacity of the vis medicatrix to effect all that has been effected by homœopathy, and therefore, according to the context of that passage, all that is effected by us. Cases must be adduced, and clinical records carefully laid open to the medical public, ere we need enter upon our defence for venturing still to depend upon venesection, antimony, and mercury, in pleurisy and pneumonia. Till this has been done we have a right to suspect that some difference of nomenclature lurks in the cases to which these names are assigned, when they have recovered under treatment, which Dr. Forbes considers imaginary, by the natural powers of the vis medicatrix. Considering, indeed, the extent to which the followers of Hahnemann have propounded an original theory of medicine, and original therapeutics, it is somewhat remarkable that they find our allopathic nosology suit them so exactly in supplying names for their cures.

The article on homœopathy, in the 41st number, professes to review the work of Dr. Henderson. Of his cases, the reviewer observes, "all bear the impress of being faithfully stated; most of them are deficient in essential details, and many of them are utterly useless to any class of inquirers."* Dr. Fleischman's cases, considering their important object, no less than the substitution of a new principle of treatment, require to be distinctly and analytically given. This task Dr. Forbes will probably undertake. For though he has disposed of homœopathy, the principle on which he disposes of its facts requires further elucidation.

In making the above remarks, if my immediate object has been to modify the censure passed on a certain use of medicinal agents, still I recognise the desire of Dr. Forbes and Dr. Andrew Combe to prevent abuse of these agents, or excessive use of them, as intrinsically valuable, and yet more valuable in reference to the dangerous "heroism" of English practise. But in opposition to the valuableness of these views it is important that their basis should be sound and well considered. Excessive advocacy may damage their practical application. There is something very attractive at first sight in the prostration of scientific interference before natural laws. Bnt it is not justified by the history and laws of disease, in the extent to which it is recommended. That history and those laws must indeed be attentively perused and excogitated, as the plans of an enemy are studied, and with the same intention; namely, *with a view to obviate them or prevent their development.* The doctrines of non-interference may gain a temporary sway through the talents of their supporters, but this truth, habitually familiar to the English mind, will afterwards recur in full force, and "Young Physic" will rise from a temporary suspension of active measures to a more heroic use than ever of calomel and the lancet.

[To be continued.]

* Page 512.

* No. 41, page 244.

CASES AND OBSERVATIONS
ON THE
# TREATMENT OF APOPLECTIC AND PARALYTIC DISEASES.

By Edward Copeman, F.R.C.S.

[Concluded from page 685.]

Case VI.— —— Bugg, æt. 65 years, a saddler; he is in general a good and industrious workman, tolerably cautious about drinking, and enjoys good health. On the 25th of October, 1845, he worked very hard in his field, and had profuse perspiration. His wife on this occasion gave him some beer with a little gin in it, as he complained of being tired; after which, he became giddy, "as if drunk," fell down two or three times, without losing consciousness, and went to bed. Nothing particular occurred in the night; but on attempting to get up on Sunday morning, the 26th, he found he had lost the power of moving his right arm and leg, and experienced occasionally shooting pains in the right side of the forehead. I saw him in the evening; his bowels had not acted for two days; he was perfect in his senses and in speech; complained of numbness and weight in the right limbs, which, however, he could move a little; and of numbness in the right cheek; tongue clean; pulse of fair strength. Ordered—

Calomel and jalap, followed by Senna draught. Limbs to be well rubbed with a liniment composed of equal parts of Camphor and Soap liniments.

27th.—Bowels have acted twice; ordered another senna draught, and some fever mixture every four hours, finding a good deal of heat of skin, headache, and fever. The headache was chiefly on the same side as that affected by the paralysis: conjunctivæ vascular, especially the right; but as there was an increase of power to move the limbs, rather than any increase of paralysis, I adopted no active treatment to reduce the apparent fulness about the head; senses quite clear; pulse strong.

28th.—Bowels acted twice freely after my visit yesterday. Has less fever; eyes less suffused; pulse somewhat reduced; moves the limbs better.

Contr. Mist. et Linim.

30th.—In all respects better.

Nov. 2d.—Got down stairs to-day, and is able to walk with a stick. Can move his limbs well, but is not always able to direct the muscles; health good.

3d.—Sat up yesterday until eleven at night, and when he went to bed suffered severely from headache. Found him this morning dressed and down stairs, but complaining of his head, with flushed face and rather anxious countenance. Bowels open; pulse good; no increase of paralysis.

Empl. Lyttæ Nuchæ. Contr. Mist. Febrif.

No doubt he exerted himself too much yesterday.

4th.—Better this morning; moves the limbs well; is cheerful, and has less pain in the head; blister drawn well; complains of flatulence.

Ordered a draught with equal parts of Decoction of Aloes and Infusion of Senna.

5th.—No headache; moves the limbs freely; bowels open; complains only of soreness from the blister, which is very red and irritable.

7th.—Complains of great weakness, and has a languid expression of countenance; tongue furred.

Rhubarb pill at night, and a mixture containing ammonia three times a day.

9th.—Better, but still languid and out of spirits. No return of paralysis.

He continued his tonic mixture, had a good appetite, and was allowed milk and meat diet; by which plan he gradually recovered his health, and is now, in January, 1846, quite able to follow his usual occupation. Nothing of illness remains, save a slight numbness in the right leg, and some unsteadiness in his gait.

Remarks.—This case presents some points worthy of particular notice. In the first place, it affords an additional proof of the safety of treating, deliberately and leniently, symptoms which, in cases of this description, are often supposed to require prompt and active depletion.

Secondly. The affection of the head, in this instance, was on the same side as the paralysis of the limbs; examples of which, I believe, are not frequently met with.

Thirdly. This case affords corroborative testimony to the fact that there is a great tendency to debility in these diseases of the nervous system; and shews that, even when unequivocal symptoms of fulness are present, such as fever, flushed countenance, strong pulse, and injected conjunctivæ, and yet no depletory treatment is adopted, there is still a condition of debility to contend with at a more remote period, requiring tonics and nourishing diet to counteract it. I imagine the speedy and almost complete recovery must be conclusive against the opinion that a necessity for bleeding was indicated by the symptoms; or that any other kind of treatment than that reported would have been attended with greater success.

Case VII.—Mrs. A. æt. 33 years; very delicate, and has for two or three years laboured under prolapsus ani, sometimes attended with severe hæmorrhage. Appetite very small, and lives upon little more than bread and water. Married about a year ago, and sent for me to attend her in her first labour, on Saturday, January 3d, 1846. She suffered a good deal of pain on that and the following day, without the uterus being sufficiently open to admit the tip of my finger, so I gave opiates to relieve her. She had for several weeks been dropsical, and her legs were much swollen.

On Monday, 5th, she had severe pains and cramp, whilst dilatation of the os uteri took place very slowly; the surgeon in attendance gave two doses of laudanum, and then she dosed between the pains. Her pains, however, came on quickly and severely; she became exhausted and apprehensive; face œdematous, and features distorted and swollen by the great exertion she had undergone.

At 5 A. M., January 6th, after having attempted delivery with the vectis, Mr. —— sent for me in haste, under the impression that, if she were not soon delivered, she would have convulsions. On my arrival I found her in a frightful state; her countenance so altered that I could scarcely recognise her; the fœtus had partially protruded for more than an hour, and by a successful application of the vectis I delivered her in two pains; but immediately the child was born she became comatose, with stertorous breathing and total insensibility. Her head had been lying very low; pulse hurried and full; countenance flushed, bloated, and covered with perspiration. She had had no rest for several nights, and had taken opiates shortly before delivery. She was naturally too delicate to be likely to bear loss of blood well; and as her appetite was so peculiar that it would be difficult, under depression, to give her nourishment, I would not bleed her. The placenta was expelled in about a quarter of an hour, by natural contraction, and the pain caused a slight moaning, but did not rouse her. I then altered her position, raised her head, and bathed her temples with cold water, applied hartshorn to her nostrils, poured a little liquid into her mouth, which was swallowed with difficulty, choking her; and by these means, assiduously employed, she was in an hour and a half roused sufficiently to recognise me and others who spoke to her. Gradually she became more sensible, and I left, giving directions for her to be kept quiet if sleeping comfortably, but to be roused if snoring.

In the evening the apoplectic symptoms had subsided; she was sensible, but had no recollection of the birth of her child, or of what passed afterwards. She had taken a little tea and a biscuit, was free from uterine pain, and complained only of severe uneasiness in her throat, and difficulty of swallowing, for which I recommended warm fomentation and flannel.

Saturday 10th.—Has been going on well up to the present time, requiring no treatment except a dose of castor oil.

In three weeks she was sitting up, and was as well as most women at that period after confinement.

Remarks.—This case differs from those which have preceded it, in the particular nature of its exciting cause; but probably the actual state of the brain was analogous to that which occurs in some cases of apoplexy from other causes. Few diseases, generally speaking, require loss of blood more than puerperal convulsions: there is, in most instances, a combination of symptoms strikingly demonstrative of the necessity for bleeding, and the generally good effect of the remedy testifies its value. But there may be

cases, even of puerperal convulsions, which do not require bloodletting.

Puerperal apoplexy is generally included in the term puerperal convulsions; but there is a sufficient difference between them to warrant their being considered distinct diseases. In this case the apoplexy was complete, but there were no convulsions; in other cases which have fallen under my observation there has been no apoplexy except during the attacks of convulsion: it has been a state of stupor during convulsions, with intervals of consciousness. In one case the coma was permanent, and the convulsions frequent, without any return of consciousness between the attacks.

We may therefore divide these diseases into three separate heads :—1. Puerperal apoplexy. 2. Puerperal convulsions. 3. Mixed cases, or a combination of apoplexy and convulsions. The case to which these remarks are appended belongs to the first division, and its history affords a gratifying proof that strict attention to *all* the circumstances of any particular case may lead us to decide correctly, and to save our patient, where haste or rashness, or the indiscriminate application of a general rule of practice, might have destroyed all hope. I thought the apoplexy might depend in some degree upon the opiates she had taken; that they might have acted too powerfully upon her nervous system after the counteracting labour-pains had ceased; especially as she had been exhausted with a painful labour of between fifty and sixty hours' duration, and had never been accustomed previously to any kind of stimulant. But I had at the same time a fear that the symptoms might be occasioned by serous effusion, as there was a great disposition to dropsy, and her face was œdematous. My reasoning led me to omit bleeding, and the result proves the treatment to have been correct.

It is a curious circumstance, that the only sister of this patient was seized with apoplexy in a similar manner, *immediately* after her first labour (a good natural one) and never rallied. She lingered ten days and died; never having spoken, or recognised any one, after the birth of the child. This account I had from the mother, but I could not ascertain what treatment was pursued in her case.

Several other cases have occurred in my practice, of which I have not sufficient notes to enable me correctly to report them; yet, since they support the conclusions I have drawn with respect to the treatment of these diseases, I shall venture briefly to refer to them:—

A carpenter, about 50 years of age, early one morning fell down insensible; afterwards he was found to be hemiplegic, and during the early stage of the disease he had delirium tremens, and was almost maniacal. He had been addicted to drinking, and his temper was naturally at times hasty and ungovernable. After a while this man recovered, and resumed his business; and is at the present time looking well, and in good condition.

An elderly gentleman was seized with hemiplegia, and his limbs remained *completely paralysed* for a fortnight. He afterwards recovered sufficiently to walk very tolerably; and died several years afterwards of slow disease in the brain, without having had a second attack of hemiplegia. For the last twelve months he gradually lost his faculties, became deaf, and before death idiotic.

A baker, advanced in years, of active habits, has twice been seized with hemiplegia, and twice cured. He walks about well, without even the assistance of a stick.

In neither of these three cases did bleeding constitute a part of the treatment.

In the early portion of my professional career I looked upon cases of apoplexy and paralysis with great alarm; the former as almost necessarily fatal, and the latter as incurable, producing permanent incapacity. My subsequent experience has given me more confidence in the probability of relief being afforded by medical treatment, particularly in cases of paralysis; most of which have recovered to such an extent, at least, as to be able to resume their various occupations, and to have enjoyment in life.

In conclusion, I have to apologise for the hasty and imperfect manner in which the foregoing cases and observations have been arranged; an almost necessary consequence of professional occupation in the country. But I trust, notwithstanding their literary defects, they will be found to throw

some additional light upon the subject of treatment by bloodletting; as to the extent to which, under the circumstances, the constitution will bear loss of blood without injury; whether bleeding may not generally be dispensed with altogether; and whether, without great judgment and discrimination, it will not be the means of destroying, instead of increasing, the chances of recovery.

## A CASE OF PLACENTA PRÆVIA.

By G. F. Stickings, Esq.

Lenham, Kent.

On the 20th inst. at 1 A. M., I was requested to attend Jane Bolton, aged 40, in labour of her twelfth child. On my arrival I was informed that she had had flooding for upwards of three hours: it had much increased during the last hour, and was still continuing. That she had lost much blood was evident from the bedding being completely saturated. On making an examination per vaginam I found the os uteri considerably dilated; the placenta presenting, and attached around its cervix. Having on a former occasion seen the value of removing the placenta, when so presenting, previously to the birth of the child, I hesitated not a moment (especially as the parturient process was active), but proceeded to separate it carefully from its attachment. This was accomplished without much difficulty, the hæmorrharge ceasing immediately on its removal. The head presented naturally; the uterus acted with vigour, and a living male child was expelled. I am happy to state that the patient is doing extremely well.

I offer this as an additional proof of the value of the new mode of practice, in cases of presentation of the placenta.

### MEDICAL PROFESSORSHIPS IN DENMARK.

The professors of the Faculty of Medicine at Copenhagen have been so badly renumerated, that they have been compelled to devote the greater part of their time to private practice. The Senatus Academicus have applied to the king to increase the emoluments of those professors who give up private practice, and devote their time entirely to teaching.—*Gaz. Méd. Chir.* 2 *Mai.*

## VALENTIN ON THE FUNCTIONS OF THE NERVES OF THE ORBIT.

*Translated from the Latin,*

By John F. France,

Assistant-Surgeon to the Eye Infirmary, Guy's Hospital.

[Concluded from page 730].

From the foregoing facts the following deductions may be drawn:—

1. The iris is endowed with two sets of nerves, which are of cerebral and spinal origin, respectively; the filaments of the former being derived from the motor oculi nerve, and those of the latter from the cervico spinal nerves.

2. The cerebral fibres, passing through the inferior division of the motor oculi, enter the ciliary ganglion by its short root. The spinal fibres arising from the cervico-spinal nerves traverse, in the dog and horse, a portion of the vagus and sympathetic in the neck, and then enter the superior cervical ganglion of the latter: while in rabbits, and, as we shall presently see, in man, they scarcely touch the simple cords of those nerves; but on emerging from the superior cervical nerves enter, some the ganglion of the vagus; some, the superior cervical ganglion of the sympathetic. They all, however, proceed by means of the carotid plexus; and having passed on, through the ophthalmic division of the trigeminal, reach the ciliary ganglion by its long root.

3. As the motor oculi and the cervico-spinal nerves are of mixed nature, it is reasonable to suppose that both sets of the iridal nerves contain fibres of sensation as well as fibres of motion; though it is evident that the latter fibres alone admit of demonstration, the others can only be inferred. Be this as it may, the hypothesis hitherto received, that the motor nerves of the iris reach the membrane by means of the short root of the ciliary ganglion, and those of sensation through the long one, is incorrect; as the filaments (of whatever kind) having a cerebral origin, penetrate the former root of the ganglion, and those of spinal origin the latter.

4. The muscular actions of the iris depending on the power of its cerebral nervous supply are opposed to those

excited by its spinal nerves. Upon irritation of the motor fibres of the third nerve, the pupil diminishes to a very small circular area; when they are paralyzed it becomes widely dilated; for not only are the muscular fasciculi commanded by them passive, but by the operation of the spinal nervous current, which continues unaffected, other fasciculi greatly enlarge the pupil. Hence, the dilatation of pupil is not merely to the extent it would attain, if all the muscular fibres of the iris were paralyzed during life, or by death; but is greater, in proportion to the activity of the fibres which dilate the pupil and are supplied from the spinal nerves. Again, upon irritation of the spinal nerves of the iris, the pupil is somewhat enlarged; but upon their division, the cerebro-iridal nerves being no longer antagonized, the pupil becomes extremely contracted. These facts are demonstrated by the experiments mentioned above.

The iris, therefore,—as careful examination of it most clearly confirms,—is not a simple muscle, but an aggregation of muscular fibres of two systems, which respectively diminish and enlarge,—or, in other words, are contractors and extensors of the pupil.

6. The medium size of pupil is inconsistent with disproportionate action of either the extensor or contractor fibres: when both are paralytic, the size of the pupil is determined merely by the bulk of the iris.

7. When the contractor fibres altogether overcome the extensors, the pupil is exceedingly diminished; but when the latter are actively exerted, the pupil is expanded beyond the medium state.

8. Thus, if strong light fall upon the eye, or both eyes are turned inwards, or inwards and upwards, or objects in close proximity are looked at, the contractor fibres become especially active; and, on the other hand, the extensor fibres come into play in the dark, or when the upper lid is raised, or distant objects are regarded.

9. Now we have already shown that the former of the actions just particularized are more or less involuntary, and effected by the inferior division of the motor oculi; and the latter, comparatively voluntary and governed by the superior division of the same nerve, the pathetic and abducens; the contractors, therefore, of the pupil act in concert with the involuntary motions, regulated by the inferior division, while the extensors are in relation with the voluntary actions of the superior division of the motor oculi, the pathetic and abducens. The nerves of the contractors of the pupil are contained, as already stated, in the cerebral; those of the extensors in the spinal division of the iridal nerves.

10. In rabbits when the contractor fibres are paralyzed, the pupil is enlarged; when the extensors are so affected it is somewhat diminished, and made elliptic in the longitudinal direction.

11. There is also in rabbits an antagonism between individual filaments of the spino-iridal set of nerves supplying the extensors of the pupil. If the entire ganglion of the vagus and the branches entering its posterior and external border are divided, the superior margin of the longitudinally oblong pupil becomes pointed, and the inferior rounded; but if the superior cervical ganglion of the sympathetic be wounded, the inferior margin becomes pointed, while the superior is rounded. This experiment may be pushed even farther still. When excision of the ganglion of the vagus has been performed, although the pupil always obtains an oblong form, and is diminished in size, yet we often find its superior angle less acute, and not unfrequently inclined obliquely, especially backwards: but when the superior ganglion of the sympathetic or the soft nerves are divided, the inferior acumination of pupil is never absent, and very often, as just described, the aperture presents the rounded and acuminate form combined: finally, if both the ganglion of the vagus and that of the sympathetic with the soft nerves be cut away, the shape of the pupil becomes oblong, obliquely from the superior external to the inferior and internal part. When the several experiments are compared together, it appears that the filaments coming from the ganglion of the sympathetic supply the muscular fibres of the iris at the inferior portion of the pupil; and those proceeding from the ganglion of the vagus, the

fibres nearest its superior boundary; so that, by a mere operation successfully executed, the figure of the pupil is made oblong in the perpendicular direction. The more, however, we proceed upwards in operating upon the cervical ganglion of the sympathetic, the more does the effect upon the iris and pupil also become developed from below upwards and backwards; while the further we descend in the ganglion of the vagus, so much more is the effect from above, downwards and forwards. It is from this easily intelligible why the pupil becomes obliquely oblong (as it is not unfrequently observed in the human subject), when both these parts, together with their immediate branches, are cut away.

12. In proportion as the spinal nervous supply is destroyed, the cerebral one becomes more influential; as the flexors, in other cases, produce contraction of a limb, when the extensors are paralytic or divided: and as, when the extensors are enfeebled, the contraction of the flexors, though already great, admits of increase upon strong irritation of the nerves, so is it with the iris. This is demonstrated by the following experiment:—The ganglion of the vagus of a rabbit was removed on the left side, and the pupil was thereby rendered small, longitudinally oblong, acute at its superior extremity, and rounded at the inferior. The animal being now killed suddenly by a wound of the heart, the pupil became a little more contracted still; then, dividing the head as quickly as possible along the central line, I extirpated the superior cervical ganglion of the sympathetic; when the pupil became yet more contracted and almost circular, though slightly angular at its extremities and side. Every time I irritated mechanically the left motor oculi nerve, the pupil became so small as to be comparable only to the minutest granule; but when the irritation ceased the former condition of pupil returned. This experiment I have repeated three times with precisely the same result.

13. As the flexors occupy for the most part one surface of the extremities, and the extensors another, yet on one and the same surface, notwithstanding, both flexors and extensors exist; so, in the iris, though the circular fibres surrounding the pupillary margin comprise the great majority of those which contract the pupil, and its extensor fibres are chiefly situated at the periphery, yet neither set of muscular fasciculi appears strictly circumscribed within these limits.

14. The antagonism of the contractors and dilators is remarkably exemplified in artificial pupils. Thus, if a longitudinal fissure is made almost in the centre of the iris of a healthy rabbit, when both sets of fibres are acting, the wound becomes diminished in length, and circular: while, if the same operation is performed on a rabbit, of which the spino-iridal nervous supply is destroyed; the artificial pupil presents a persistent longitudinal fissure, more or less parallel to the pupillary margin.

15. Upon evacuation of the aqueous humour the pupil of a healthy rabbit becomes notably contracted; whereas in one, of which the spino-iridal nerves are divided, it expands under the same operation.

16. When the spinal source of supply is cut off, the pupil becomes contracted, and continues so, unaltered by the light. If, however, some time have elapsed; it occasionally happens in rabbits, that the pupil enlarges when the strong light of a candle falls upon the eye, and contracts in the dark.

These phenomena are explicable in the following manner. In a sound eye, upon the impression of light, or evacuation of the aqueous humour, the cerebro-iridal overcome the spino-iridal nerves, and diminution of pupil results. An extreme of this condition also ensues, and is persistent, owing to the unopposed action of the contractor, when the latter nerves are divided, and the former alone remain efficient. Now, as the light is a moderate stimulus, it still produces its ordinary effect, provided the contraction has not reached its utmost limit: this is now and then the case with rabbits, especially when a few weeks have elapsed after the operation, If, however, it has already reached its highest degree, and an irritation sufficient to overcome the power of the cerebro-iridal nerves is applied, the contraction, being incapable of increase, is actually lessened,—as stronger irritation still would of necessity cause paralysis: in like manner, a certain given force of electricity, which produces convulsion of a healthy muscle, renders one

employed in excessive or continual contraction paralytic. This peculiar dilatation of pupil upon the influx of light, is more rare in rabbits than in dogs; because the spino-iridal nervous supply is less energetic, and consequently less readily exhausted, in the former.

17. We have said that after section of the trigeminal nerve the pupil becomes much contracted in rabbits, but in dogs and cats is enlarged—a difference according with the diversity in the cerebro and spino-iridal nerves of dogs and of rabbits. For in dogs, where the cerebro-iridal nervous action is greatest, the excessive irritation produced by division of the fifth induces paralysis of the contractor, and consequently dilatation: in rabbits, where the excitability is less, the same irritation causes only extreme contraction of the muscle.

18. The alterations of pupil after death seem to depend on the antagonistic contractility of the iris; for, during cadaveric rigidity, according as the contractors or extensors are the more in action, the pupil becomes either exceedingly large or small, and continues the same throughout. When, however, rigidity has entirely disappeared, the pupil assumes a degree of expansion corresponding to the bulk of the iris.

19. Lastly, the antagonism of the cerebro- and spino-iridal nerves is borne out by the history of their evolution. The motor oculi at first represents an anterior motor root, and receives its fibres of sensation subsequently; the ophthalmic division of the fifth, on the contrary, is at first purely sensitive, and receives the motor spino-iridal fibres afterwards. The motor fibres, therefore, of the cerebro-iridal set, and the sentient fibres of the spino-iridal, are the first developed; and the sentient filaments of the former set, and the motor filaments of the latter, are secondary.

Before, however, proceeding further, we may well inquire whether this spinal supply of nerves to the iris exists in man; and if so, what is its nature. Legallois, jun. relates two cases in which a contracted pupil was combined with suffusion of the conjunctiva, ulceration of cornea, and wasting of the whole body; and relying on the experiments upon the superior cervical ganglion of the sympathetic, instituted by Dupuy, upon the horse; and those by Majendie, respecting nutrition by sugar, attributes all this mischief to disease of the nerve just mentioned. As, however, no necroscopic examinations are detailed, absolute demonstration is wanting. Among cases of disease given by other authors, I have found but three relating to this subject, which, however, illustrate two very remarkable facts: namely (1) that, as regards the alteration of pupil, produced by lesion of the spinal nerves of the iris, the human subject resembles the rabbit rather than the dog; and (2), that reaction of pupil, similar to that of which we have spoken above, under numbers 8 and 16, takes place upon influx of light afterwards. Andral* observed a man, who having twice suffered from syphilis and scabies a long time after had pain of the right knee for three weeks. On its removal the kidneys were affected painfully for four or five months; then pain arose in the anterior part of the chest; and, subsequently, in the left thigh, where it remained for eight months. Two weeks more having elapsed, the left side of the head, and shortly after, that of the face, became painful; and the neck, of which the motions also became impaired, afterwards partook in this affection. A large quantity of pus was now ejected as if by regurgitation; and emaciation, with inclination of the head and rotation of the face to the right shoulder, supervened; and four weeks after this, formication occurred in the fingers of the left hand, followed by paralysis of the left superior, and debility of the left inferior, extremity. The following were the symptoms at this period, being the fifth year from the commencement of the malady, when the patient was admitted into the Hôpital de la Charité of Paris:—Decubitus upon the back; inclination of the head and face to the right side; pains on the left side of the head; the left pupil smaller than the right; the conjunctival vessels of the left globe excessively congested; some degree of ptosis on the same side; but no weakness of vision in either eye, nor hallucination of the senses, nor disturbance of the intellect; "loss of

* Clinique Medicale, tom. v.

motor power in the left arm, but no contraction nor anæsthesia of the paralytic limb; movements of the left inferior extremity much impaired. Death occurred in sixteen days. On post-mortem examination, the brain was found healthy: but the arachnoid was injected; and the transverse ligament of the atlas, which separates the odontoid process of the axis from the medulla spinalis, totally destroyed; so that this apophysis, which was itself rough and irregular, compressed and produced softening of the medulla. The left superior articular surface of the atlas was not connected with the condyle of the occipital bone by either ligament or capsule, the left half of both bones being carious and surrounded with a quantity of pus; and disorganization of the same kind, but to a less extent, existed on the right side. The anterior surface of the bodies of these vertebræ was carious, and "there was a large collection of pus between them and the pharynx, which presented an aperture in lieu of a portion of one of the cervical vertebræ." The remainder of the spinal column and medulla, together with the thoracic and abdominal viscera, were free from morbid appearance.

As it is unquestionable that, in the foregoing case, the motor cords of the left side were paralyzed, so is it also clear that the motor spino-iridal fibres were similarly affected: and the pupil being described as smaller, we may perhaps assume that it was of oblong form. Man, therefore, in this particular, resembles the rabbit, which, like him, has the cervical vagus and sympathetic distinct, rather than the dog, in which the same nerves are united: so that in this respect anatomical conformation and physiological characters completely tally.

Himly* speaks of some cases of amaurosis and amblyopia in which the ordinary effect of light upon the pupil is reversed; and Hennen remarked the pupil expand upon increase of light, and contract with its diminution, in a person the examination of whose body subsequently disclosed extravasation of blood between the membranes of the brain. This phenomenon, at first sight, seems explicable in two ways: either, the spinal nerves of the iris being paralyzed, a condition was established, the effect of which, as exhibited in rabbits, has already been explained; or, the cerebro-iridal nerves being paralyzed, the extensors of the pupil only retained the power of contracting upon the action of light; and relaxed again on its removal. Since, however, the latter explanation is not supported by experiment on animals, the former claims preference. In conclusion, when, as is observed not unfrequently, both pupils of an individual are motionless; but one contracted and the other dilated; both classes of iridal nerves are paralyzed—the cerebro-iridal set; in the other in the last mentioned eye, the spino-iridal.*

By the preceding observations, other symptoms which ensue upon division of the carotid nerves emerging from the cervical ganglion and vagus are made intelligible.

1. The globe both in rabbits and dogs is drawn inwards; the external being overcome by the internal rectus, or the abducens nerve by the inferior division of the motor oculi. For if the primitive nervous fibres, which pass from the carotid branches to the

* Ophthalm. Brobacht., Ophthalm. Bibliothek, vol. iii.

* Various anomalous distributions of the nerves will be now better understood: and among them, the case observed by Otto, to be found in Seltene Brebacht. zur Anat. &c., in which the nasal nerve, not proceeding from the ophthalmic division of the trigeminal, but from the abducens, supplied the long root of the ciliary ganglion, and two long ciliary branches. In this instance, undoubtedly, the spino-iridal nerves did not pass with the trigeminal and abducens, but with the latter alone. Again, if it happens occasionally, as Morgagni, Meckel senr., and Zinn (in his "Descrip. Oculi Hum.,") have observed, that both the long and the short roots of the ganglion are derived from the motor oculi; we must suppose that the spinal supply then passes either through the long ciliary branches, or the motor oculi. If, as Schlemm witnessed, and has noticed in his "Obs. Neurol.," the long root before entering the ciliary ganglion communicates by a branch with the lachrymal nerve, that which we shall presently state respecting the secretion and excretion of tears after section of the spinal nervous supply, will throw light upon the variety. Finally, the anomalies recently described by Hyrtl (Med. Jahrb. d. Oester. St., vol. xxviii.,) are perfectly explicable from his own observations; as in the case in which a branch came from the abducens nerve to the ciliary ganglion, this nerve had previously received it from the motor oculi. So, when fibres are added from the superior division of the last mentioned nerve, dilatation of pupil, in accordance with our previous statements, would perhaps occur more readily on elevating the upper lid. The inferior long root discovered by Hyrtl, as like the long root ordinarily described, it arises from the nasociliary nerve, does not affect the physiological inquiry.

abducens, exercise in part motor powers, when they are divided, the motor force of the abductor muscle must be diminished; and the greater is this diminution, the more easily will the internal rectus muscle over come the external.

2. From the same cause, the fold of conjunctiva is drawn out, and not unfrequently more or less suffused.

3. The excretion of the lachrymal gland being either excessive or scanty—a circumstance often observed after extirpation of the superior cervical ganglion—might seem at first explicable, from the motor oculi being over-exerted; just as tears flow when we adapt the eye for vision of very near objects, or look through glasses of too great convexity. Yet the disproportionate action of the internal rectus after the operation is not so great as to produce lacrymation; for this symptom does not occur upon one or both of the eyes being turned inwards: hence there must be another reason for the phenomenon, which is explained by the following theory, in perfect conformity with observation. If a portion of the motor fibres of the cervico-spinal nerves, accompanying the carotid branches, and joined with the ophthalmic nerve, is carried by means of the lacrymal branch of the latter to the lacrymal gland, the ducts of this gland, which derive motor fibres from the motor oculi nerve also, possess a double supply of nerves: filaments coming from the brain through the motor oculi, and from the spinal medulla through the cervico-spinal nerves. Upon division of the latter, the former will come into constant contractile action; and thus produce abnormal secretion and excretion of tears.

In conclusion, then, the muscles, together with the motor, and probably the sentient nervous fibrils of the globe, are all reducible into two opposed or antagonized classes, viz.:—

1st. The automatic set: consisting of the internal and inferior recti and inferior oblique muscles, supplied by the inferior division of the motor oculi; and the contractores pupillæ, deriving their power from the brain, through the same nerve.

2nd. The voluntary set: comprising the external rectus, supplied by the abducens nerve; and the superior rectus, supplied by the superior division of the motor oculi; the superior oblique, by the pathetic; and the dilators of the pupil, by the filaments from the spinal nerves. The muscles of the palpebræ are in similar antagonism; the levator palpebræ superioris contracting, and the orbicularis being relaxed, when the eyes are open; and when closed, the former being relaxed, and the latter active: the levator palpebræ is, therefore, to a certain extent, in analogy with the voluntary class and the dilators of the pupil, and the latter with the automatic set and the contractors of this aperture.

### Translator's Note.

The opinions of Valentin, novel as they are in many respects—so novel, that from a less distinguished physiologist we should probably reject them at once as chimerical—must arrest attention, and certainly challenge careful examination. The presumed facts, upon which they rest, are, simultaneously with the peculiar theories deduced, laid before us in the foregoing treatise; and it is but justice to its author to give, from his preface, the following extract, in testimony of the caution with which his observations have been recorded. "In the following work," he says, "I have in no instance overlooked the necessity of specially mentioning what I have ascertained from one or a few experiments only, or have witnessed but once; on the other hand, whatever is announced in positive language, I have proved so frequently, as to be incapable of doubting its accuracy and truth."

Perhaps the most interesting subject discussed (that, at least, which first led me to peruse, and determined me to translate, so much of the original work, as relates to the nerves of the orbit), is that of the nervous endowment of the iris. This, as well as other debateable questions, I have, on the present occasion, studiously refrained from prejudicing by comment of my own, or by collating the observations of others. Hence, the reader may, with less bias, allow their due weight to the arguments and experiments of the author; and hence, too, with the highest estimation of Valentin's labours, I must disclaim credit, and decline responsibility, except for the faithfulness with which the translation has been executed.

Cadogan Place, Feb. 1846.

# MEDICAL GAZETTE.

FRIDAY, MAY 8, 1846.

WHATEVER difference of opinion may exist respecting the best plan to be pursued in medical legislation, there can be no doubt that the practice of the chemist and druggist—or (to use a more appropriate term) of the pharmaceutist, calls loudly for the interference of the Legislature. We can see no reason why pharmaceutical, should be postponed until medical legislation has been settled upon a secure and satisfactory basis; and, indeed, to wait for the latter desirable result, would be, under present circumstances, very much like a postponement *sine die*.

It has always appeared to us an unaccountable piece of neglect on the part of our Government, that no attempt should have been made to place the practice of pharmacy under some legislative restrictions. Any individual, be he ever so ignorant, is at liberty to open a shop, call himself "chemist and druggist" or "operative chemist," and to dispense medicines; and with an imperfect knowledge of his own language, do his best to make out the meaning of Latin prescriptions, without having submitted himself to any course of education, or to any test of competency by examination. It may be a matter of sound policy not to interfere with the right of the subject to follow what trade or calling he pleases; but we hold it to be most just and necessary, for the security of the public, that a trade requiring special knowledge—a want of which may lead to most disastrous results—should be treated on a different principle. Let it be open to all to follow it, but let each individual be compelled to pursue such a course of study, and undergo such an examination, as may prevent the lives of the public from becoming endangered by the exercise of his vocation.

Of the properties and doses of medicines, persons in ordinary life are perfectly ignorant: few who take a Latin prescription to a druggist's shop are able to read or understand it, or to determine whether they have or have not been supplied with the proper medicine. In short, the most unlimited confidence is, and must be, placed by the public in the knowledge of the dispenser; and it is on this ground, we think, that the practice of dealing in, or of dispensing medicines requires especial control. If we look to the results of ignorance or carelessness, we learn, from the reports of numerous coroners' inquests, that they fall with far greater weight upon those to whom the improper medicine is supplied, than upon the person who dispenses it. A father, mother, or child, is lost to a family, while the dispenser commonly escapes, from mistaken leniency, on a verdict of accidental death. It is surely a strange part of our domestic policy, to allow the only check upon this kind of practice to be the risk of a trial for manslaughter, *after* the mischief has been perpetrated. A man unacquainted with drugs, ignorantly supplies nux vomica for ipecacuanha, laudanum for tincture of rhubarb, or oil of tar for a black draught, and kills the individual. The *English* legal remedy—*i. e.* a prosecution for manslaughter—only comes into operation when a life has been destroyed; when an irretrievable damage has been done: whereas a more reasonable view of the circumstances must surely lead to the conclusion, that sound legislation should be directed to the prevention of the loss of life, and not to the occasional punishment of the offender after the

occurrence of the mischief. It is undoubtedly true, that no legislation can prevent accidents; but what it can easily accomplish, is—the reduction of the number of these accidents, most of which arise from ignorance, by confining the dispensing of medicines to those who have really shewn that they possess a proper knowledge of the articles which they retail to the public. Prevention is better than punishment; and we hold that more good will be done to society in preventing the loss of one life, by a proper plan of pharmaceutical legislation, than in transporting twenty individuals for manslaughter, under the present loose and dangerous system.

It is for this reason we are glad to find that the members of the Pharmaceutical Society have already prepared the outline of a bill which they propose to submit to the legislature. The great objects of the promoters of this measure, are—to found a College of Pharmacy—to require a proper education in the dispensers of medicine, and the registration of such as are duly qualified. All chemists and druggists in business at the time of the passing of the act, are to be entitled to registration; and being registered, they will become members of the College. This is a very liberal provision, and one likely to add to the popularity of the new law; but in order to prevent an unfair advantage being taken of it, we think it would be advisable to limit registration to those who have been at least twelve months in practice as chemists and druggists, prior to the passing of the act. Again, it is proposed that a definite period (twelve months?) should be fixed for registration, which is to be conducted by a registrar under a provisional council of not less than five chemists and druggists (Pharmaceutists?) A small fee is to be required from each member on his registration, except in the case of the members of the Pharmaceutical Society, who, being already registered under a Royal Charter, will be exempted. At the expiration of the period allowed for registration, a list is to be published, and a general meeting summoned, at which a council of twenty-one is to be elected; which council is to elect a President, Vice-President, Treasurer, and other officers. It is proposed, in carrying out these objects, to make such regulations, as to guard against the abuses occasionally met with in corporate bodies. This will be a difficult task; and we need hardly observe, that upon the manner in which it is accomplished will depend the stability of the new College. The Pharmaceutical Society have, however, an excellent opportunity of profiting by the failure of other schemes of a similar kind, in order to ensure unanimity in the general body of the members, and of preventing those results which have led to the present disorganized state of the medical profession. Further, we are informed that—

The Council are also to appoint a Board of Eight Examiners, who are to examine Candidates in Classical knowledge, Botany, Materia Medica, Pharmaceutical and General Chemistry, and Toxicology, and who must make a declaration to the effect that they will perform this duty faithfully, impartially, honestly, &c. The persons so examined and furnished with certificates of qualification will be entitled to registration as Pharmaceutical Chemists and Members of the College; and after the end of one year from the passing of the Act, no person will be entitled to such registration without having previously passed the examination.

The following is the clause which is proposed for prohibiting unqualified persons from assuming the name and exercising the business of a Pharmaceutical Chemist and Druggist:—

"And be it enacted, That any person

(except any person established in business as a Chemist, or Chemist and Druggist, at the time of the passing of this Act) not being duly registered under this Act as aforesaid, who shall, after the end of one year from the passing of this Act, engage in or exercise the business of a Chemist, or Chemist and Druggist, or who shall, by himself, or his Assistants or Apprentices, prepare, compound, or dispense for sale or gain on his own account, any Medicines or Medicinal substances, by or from any order, receipt, or prescription of any Physician, Surgeon, or other qualified Medical Practitioner, or any other person whatsoever, or who shall take or use the name or title of Pharmaceutical Chemist and Druggist, or Chemist, or Chemist and Druggist, or shall use, display, or exhibit any sign, token, or emblem, implying that he is a person registered under this Act, shall forfeit and pay for every such offence a sum not exceeding Ten Pounds."

And the following clause defines the manner in which this provision is to be enforced :—

"And be it enacted, That it shall be lawful for any two of Her Majesty's Justices of the Peace, in Petty Sessions assembled, acting for the County in which the offence shall have been committed, or for one of the Justices appointed by virtue of an Act passed in the second and third years of Her Majesty Queen Victoria, intituled 'An Act for regulating the Police Courts of the Metropolis,' to hear and determine in a summary manner any Complaint charging any person with any offence under this Act, on the oath of one or more credible Witness or Witnesses, or by his own confession, and to award the penalty hereinbefore provided for any such offence."

A clause is introduced exempting from the operation of the Act, all legally qualified Medical Practitioners; and another clause exempting Manufacturing Chemists, the venders of simple and uncompounded drugs, patent or stamped proprietary medicines, and horse or cattle medicines.*

So far as the statement yet published will allow us to judge, we have no hesitation in expressing our approval of this scheme for reforming what has been for a long period a great abuse, and a source of much injury to the public; *i. e.* the practice of allowing medicines to be dispensed by unlicensed and ignorant persons. The examination, it will be perceived, is confined entirely to those subjects which it is important for the pharmaceutist to know. Care has been taken to avoid any invasion of the rights of those who have received licenses under the Apothecaries' Act of 1815. Some of the absurd anomalies of that act are avoided in the two clauses which we have quoted. A penalty may be levied upon persons who practise without a license, recoverable,—not by the prosecutor paying twenty times the amount, in the shape of costs, out of pocket,—but by summary conviction before two justices or one police-magistrate; and the offence is so clearly defined as to admit of very easy proof. Besides, the offence does not consist merely in a man *calling* himself a chemist and druggist; but in his *acting* and practising as such. There is no assumption of a privilege of prescribing; the powers acquired under the act, are to be limited to the compounding and dispensing of medicines.

We think a measure of this kind will be attended with good both to the public and the medical profession. It is a step in the right direction. There is no invasion of the privileges of the medical practitioner, but an evident desire to carry out those wise objects which, in relation to pharmacy, have been incorporated in the law of France for nearly half a century*. We do not anticipate any opposition to this Bill: indeed, it appears to us that every member of the profession will be glad that it should receive the fiat of the legislature. We intend at a future time to compare the restrictions here proposed to be placed on pharmaceutical practice in England with those which exist in France.

* Pharmaceutical Journal, May 1846.

* 21 Germinal An xi. (11 Avril, 1803).

In examining the District Registrar's notes on the deaths which have occurred during the first quarter of the present year, we find there are specially mentioned 326 fatal cases of small-pox. To those who take an interest in the diffusion of vaccination, it may be gratifying to state, that out of this large number of well-observed cases, there were only 16 fatal after vaccination; but in some of these it was doubtful whether the individuals had really been vaccinated. On the other hand, there were 171 fatal cases in which it was ascertained that vaccination had certainly not been performed! Of 139 fatal cases, the particulars are not given; but we judge that, had there been any evidence of vaccination, it would have been mentioned, in accordance with the instructions of the Registrar-General. These returns furnish no evidence in favour of the alleged necessity for revaccination at the adult period of life,—a theory which has of late become somewhat fashionable. Of the 16 fatal cases after vaccination, two individuals are mentioned as having died at or about the age of forty; but then, as if to balance this, there was among the fatal unvaccinated cases, one individual who died from small-pox at the age of forty-five, after having been inoculated in infancy. In short, we find in these returns, taking the proportionate numbers living at different ages, nothing to justify the belief that this disease is more prevalent or more fatal among the vaccinated, at the *adult*, than at any other age; while they clearly confirm the opinion, that it causes great mortality among those who have not undergone vaccination.

## Reviews.

*The Physiology of the Nerves of the Uterus and its Appendages.* By Joseph Swan. 8vo. pp. 31. Longman and Co. London. 1846.

In the year 1841, Dr. Robert Lee published a work in which it was stated that the author's dissections had enabled him to arrive at the conclusion "that the human unimpregnated uterus possesses a great system of nerves, which enlarges with the coats, blood-vessels, and absorbents during pregnancy; and which returns, after parturition, to its original condition before conception took place." Dr. Lee sought to substantiate this opinion, principally, by certain dissections of the uterus, which he most fairly submitted to the examination of various anatomists. Two very eminent authorities, from whom an opinion of these dissections was requested, expressed a conviction (derived from microscopical examinations of the parts) that the structures which Dr. Lee considered to be nerves, were, in reality, composed of elastic tissue. It appears, however, that these gentlemen examined the parts after their appearance had become greatly altered by maceration in spirit, and that they subsequently withdrew their original opinion. Many other anatomists of high authority expressed themselves perfectly satisfied with Dr. Lee's preparations, and it was shown, during the discussion which followed the promulgation of the Doctor's views, that error is likely to be occasioned, in the microscopical examination of the uterine nerves, from the fact of these structures being inseparably connected with portions of elastic tissue. Dr. Lee has, very recently, stated that his views have, of late, been further confirmed by dissections of the gravid uterus. It appears that William Hunter and Osiander considered that the nerves of the uterus became enlarged in the same proportion as the vessels are, but their opinion does not seem to have been the result of actual observation. John Hunter, on the contrary, positively denies that the uterine nerves become enlarged during pregnancy; and this latter opinion has also recently been

very strenuously maintained by Mr. Thomas Beck, who also adduces several minute dissections in confirmation of his views. We have not had the pleasure to examine the preparations either of Dr. Lee or Mr. Beck, but we cannot help believing that, *primâ facie*, the evidence afforded by dissections which are intended to demonstrate the presence or large extent of any structure, must bear with it a greater degree of conviction than can be derived from the apparent absence or scantiness of the same structure in certain other specimens. In this discussion, one party or the other must, of course, be totally in error; and whenever the point becomes satisfactorily decided, as we trust it ultimately will be, the two sets of preparations, placed side by side, would form a very interesting memorial of the innumerable difficulties and sources of fallacy which beset anatomical research *.

The pamphlet before us is evidently intended to assist in resolving this strongly contested point; but, although Mr. Swan has joined his valuable authority to the negative side of the question, we do not consider that he has at all succeeded in setting the matter satisfactorily at rest.

Mr. Swan observes, that "there may be, in addition to the altered quantity of the nervous structure generally, a slight increase of the uterine nerves during gestation, so as to accord with the healthy excitement of the blood-vessels, but nothing more;" and he elsewhere remarks, that "if there be any enlargement of the uterine nerves, it is very slight." He is also at great pains to establish the opinion that any great increase of nervous power in the uterus would not have been proper for securing the gentle action of the uterus during gestation.

A full quotation of the recapitulation with which Mr. Swan's pamphlet concludes, will, however, give the most fair idea of his general opinions upon this subject:—

"It may not be uninteresting to recapitulate the leading facts set forth in the preceding pages, for shewing that there are various powers implanted in the animal body for its preservation, and capable of being called into activity on proper occasions; that variations of faculties more or less prominent, or entirely quiescent, form these means throughout the animal creation; that provisions have been thus made for accommodating one part of the body to another, that useless mechanism might be avoided, when it could not be diminished or removed, and it would remain as an incumbrance after the completion of any special process; also for adapting the animate portion of the creation to the variations of the inanimate, through which the animate is more or less to be sustained or destroyed" (?). "It has been stated that there need not be altered structure where there are altered functions; that these are natural processes, neither requiring nor producing more than a very slight local excitement; that natural processes in the mature body of some animals are resembled by the growth of the embryo; that there are variations of natural processes which are healthy in one animal and morbid in another; that there are restorative processes analogous to the natural healthy ones; that there are modifications of excited faculties in reproduction, which are healthy in some animals and morbid in others; that parturition, although a healthy process, approaches very near to the morbid; that there are increased natural motive powers resembling tetanus; that there is a general altered quality of the nervous essence, and particularly after conception, for expediting the maturity of the fœtus, and producing a higher excitement for the completion of parturition; that there is a local power of excitement produced in the nerves by the excited condition of the lower part of the uterus and vagina; that the local actions are modified by the peculiar qualities of different nerves, and are further changed by combinations between themselvss; that the sympathetic is well adapted for the functions of the ovary, also for the increase of the uterus and the nourishment of the fœtus, but is not sufficient for exciting full expulsive powers; that the branches from the plexus of the conjoined hypogastric and

* We understand that Dr. Knox, the anatomist, examined Mr. Beck's dissection, and discovered that many branches of nerves had been cut across. Dr. Knox took up the cut ends and traced them into the parts below the surface of the preparation, demonstrating that they were some of the nerves seen in Dr. Lee's more complete dissection. He also objected to the mode of dissection pursued by Mr. Beck, because the nervous structures which were visible appeared to have been shredded and deprived of their sheath; and he stated his conviction that such a mode of proceeding could not be relied on in the dissection of the sympathetic nerves. This question has already excited much discussion in reference to the Royal Medal lately awarded to Mr. Beck. Into that part of the subject we do not propose to enter, but we think a committee of practical anatomists should be appointed to examine and report upon the dissections of Dr. Lee and Mr. Beck. This would be only fair to those gentlemen, and it would tend to remove any doubts which may at present exist in the minds of anatomists and physiologists.—Rev.

sacral nerves at the lower part of the uterus and the vagina are proper for receiving irritation at the full maturity of the fœtus, or on the accession of any morbid cause, and are then capable of exciting tetanic action; that the sentient nerves of the external parts are proper for causing the voluntary muscles to expel the fœtus; that the fibrous structure connected with the round ligaments, and placed between the peritoneal and muscular coats" (Mr. Swan evidently conceives that this structure has been mistaken for nervous matter), "has entirely mechanical powers of preserving the attachment of the peritoneum in its proper place after the contraction of the uterus; that the plexus of conjoined hypogastric and sacral nerves is not proper to the uterus, but to the bladder and rectum; that in uniparous animals the nerves and blood-vessels are severally arranged for retarding the growth of the uterus and fœtus; that in multiparous animals every part of the uterus, except the very lowest, is fully and freely adapted, by the arrangement of the blood-vessels and nerves, for expediting the maturity of the fœtuses, and that the portions only containing the fœtuses can receive sympathetic nerves; that, if there be any enlargement of the uterine nerves, it is very slight, and that such a power would not have been proper for securing the gentle action of the uterus during gestation, if it could have promoted the violent one in parturition."—(pp. 28. 30).

As we have already hinted, we consider that the statements contained in this pamphlet are very far from being of the conclusive character which is required at the present stage of this discussion, and they are certainly by no means of the practical and demonstrative kind which we should have anticipated from so experienced an anatomist as the author. We should have attached much importance to a plain declaration from Mr. Swan that he had carefully and repeatedly examined the nerves of the gravid uterus, and had satisfied himself that they do not become augmented in size in proportion to the general enlargement of that organ; but this position is not demonstratively maintained in the present essay; and the peculiarly theoretical style of the author's reasonings, and occasionally the almost unintelligible character of his expressions, do not by any means tend to place his arguments upon a securer basis.

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*A Manual of Physiology; including Physiological Anatomy: for the use of the Medical Student.* By William B. Carpenter, M.D. F.R.S. &c. With one hundred and eighty Illustrations. 12mo. pp. 582. London: Churchill, 1846.

There are two classes of investigators to whose labours science has been almost equally indebted for its advance, — those who possess that faculty of observation which leads to the discovery of novel facts, and those who, without pretending to the character of discoverers, enjoy the power of analysing, weighing, and arranging a multitude of isolated data in such a manner that really original results are derived from their combination. These two faculties are seldom united in the highest degree in the same individual, but our profession abounds with men who, while possessed of fair powers of original observation, are eminently qualified for the task of systematizing and reasoning upon established facts. The writings of Dr. Carpenter certainly display this faculty in the highest degree; — throughout their pages an abundance of facts which have been hitherto scattered and isolated are laboriously collected, detached from all extraneous and useless adjuncts, and blended together into definite and consistent systems, which are, not unfrequently, rendered the sources of new and important deductions. As a very felicitous example of this power of combination, we refer our readers to the chapter on "the Elementary parts of Animal Structures," which we regard as the leading feature of the work before us. In this section, the principal facts recently adduced by Liebig and Mulder in illustration of the chemical origin and characters of the materials of which organized bodies are formed, are combined with all that is most valuable in the microscopic history of elementary structures;—and we cannot render too high praise to the manner in which this difficult and intricate task has been accomplished. The isolated facts of a hundred observers are here concentrated into a system which, with all its necessary imperfections, affords a most encouraging insight into the knowledge of the true nature of organization which may, doubtless, yet be attained by the con-

tinued pursuit of chemical and microscopical investigations.

Dr. Carpenter states, in his preface, that

"Although this manual combines in some degree the scope of the author's two larger works on the same subject, yet it cannot be regarded as a mere abridgment of them; having been written with very little reference to them, and on a plan which is in many respects different. His object has been, to convey to the student as clear an idea as possible of the principles of the science, to point out the manner in which these principles should be applied, and to give an outline of the most important facts which indicate the nature of the various changes taking place in the living organism. In following out this intention he has thought it right to adopt a plan, which, so far as he knows, is a novel one;—namely, to commence his exposition of the characters of organised structures and phenomena, by a full account of the development and metamorphosis of cells, and of the purposes which these effect in the living body, either in their original or in their altered condition."

This plan Dr. Carpenter has certainly followed out with the greatest success in the third chapter of which we have already spoken.

We have marked a few passages of this work for extract, less from a belief that they afford the most striking examples of the manner in which Dr. Carpenter discusses physiological subjects, than from a wish to quote facts which may be useful to our readers generally. In the following passage the leading particulars respecting the causes of cadaveric rigidity are well conveyed.

"The *Rigor Mortis*, or death-stiffening of the muscles, is probably to be regarded as a manifestation of this property," (tonicity) "occurring after all the irritability of the muscles has departed, but before any putrefactive change has commenced. This phenomenon is rarely absent, although it may be so slight, and may last for so short a time, as to escape observation. The period which elapses before its commencement is as variable as its duration; and both seem to be dependent upon the vital condition of the system at the time of death. When it has been weakened or depressed by previous disease, the irritability of the muscles speedily departs; and the stiffening comes on early, and lasts but a short time. Thus, after death from typhus, the limbs have been sometimes known to stiffen within 15 or 20 minutes. On the other hand, when the general vigour of the system has not been previously impaired, and death has resulted from some sudden cause, the irritability of the muscles is of longer duration, and their stiffening is consequently deferred. The commencement of rigidity usually takes place within seven hours after death; but twenty or even thirty hours may elapse before it shews itself. Its general duration is from twenty-four to thirty-six hours; but it may pass off much more rapidly, or it may be prolonged through several days. It affects all the muscles composed of the striated fibre with nearly the same intensity; except that the flexors usually contract more strongly than the extensors (as in sleep), the fingers being closed upon the palm, the hand bending on the fore-arm, and the lower jaw being drawn firmly against the upper. And it even manifests itself in muscles that have been thrown out of use by paralysis, provided that their nutrition has not been seriously impaired. This tonic contraction, however, is most remarkably manifested in the non-striated fibre; and especially in the heart and blood-vessels. As soon as the muscular walls of the several cavities lose their irritability, they begin to contract forcibly on their contents, and thus become stiff and firm, although they were previously flaccid. In this manner the ventricles of the heart, which are the first parts to lose their irritability, become rigid and contracted within an hour or two after death; and usually remain in that state for ten or twelve hours, sometimes for twenty-four or thirty-six, then again becoming relaxed and flaccid. This rigid contracted state of the heart, in which the walls are thickened and the cavities diminished, was formerly believed to be a result of disease, and was termed concentric hypertrophy; but is now known to be the natural condition of the organ, at the period when the rigor mortis occurs in it. The contraction of the arterial tubes is so great as to produce for the time a great diminution in their calibre; and this doubtless contributes to the passage of the blood from the arterial into the venous system, which almost invariably takes place within a few hours after death. The arteries then enlarge again, and become quite flaccid, their tubes being emptied of the previous contents; and it was from this circumstance that the ancient physiologists were led to imagine that the arteries were not destined to carry blood, but air."*

* We apprehend that, for some time previously to the researches of Harvey, as well as subsequently to the discovery of the circulation, the word "*spiritus*," as used by anatomical writers, was not intended to convey an idea that the arteries contained a subtle vapour or air, but that in reality the term "spirits" was that by which arterial blood was commonly designated. Thus

As the author very justly argues, the rigor mortis evidently depends, as shewn by Mr. Bowman, upon the permanent (?) contraction of the component fibres of the muscles, and it is evident that the coagulation of the blood can have nothing to do with it. (pp. 214—15.)

Dr. Carpenter elsewhere mentions one or two remarkable facts in illustration of the retardation of the act of coagulation which is sometimes noticed in the blood after death. "The blood," he observes—

"Is occasionally found in a fluid condition in the bodies of persons that have been dead for some days; and yet, when withdrawn from the vessels, it coagulates. An instance has been lately put on record in which blood drawn from a patient suffering under an attack of pneumonia did not coagulate for fifteen days, and then formed a firm clot, and was a month before it putrefied."

We regret that Dr. Carpenter has not mentioned the authorities to whom he is indebted for these two very startling facts.

The author makes an interesting remark upon the use of gluten bread, in cases of diabetes mellitus.

"The craving for vegetable food which is experienced when the diet has long consisted of meat alone, is such as to make perseverance in the latter very difficult; and a means has been latterly devised for supplying this want without injury, by the use of bread from which the starchy portion has been removed, the gluten or azotized matter alone being eaten. As an illustration of the advantage of this treatment, even in unpromising cases, the author may cite an instance which has come under his own observation. The patient was a man 72 years of age; the disease had lasted at least a year, and was decidedly on the increase; considerable loss of flesh and of muscular vigour had taken place; and the quantity of sugar in the urine was such as to make it quite sweet to the taste. By the careful restriction of his diet to animal flesh and gluten-bread this individual has kept the disease in complete check for more than 15 months; he has gained flesh, and improved in strength, and his urine is no longer sweet. Having two or three times ventured upon a return to his ordinary diet, his old symptoms have immediately manifested themselves, warning him of the necessity of perseverance in the strict regimen prescribed for him."

A very obvious characteristic of this treatise is the absence of bibliographical references, and the very unfrequent mention of the names of the writers to whom the exposition of the facts detailed is attributable. We conceive it to be a great error in those who write works for the use of students to load their pages with names and authorities, which tend to divert the learner's attention from the facts to which they are appended, and which are quite as hard to remember as the facts themselves. We also think that the plan usually employed by our examining bodies, of requiring that students should be able to state to what writers such and such doctrines are to be attributed, is faulty in the extreme, as tending to encourage a knowledge of names rather than of facts, and to lead the student to rest his expectations of success rather upon the retentiveness of his memory than upon the acuteness of his observation.

We should have been glad to find that, in a work of this kind, the author had entirely departed from the old system, and had not cited a single authority, merely stating that such were the facts, and such the opinions formerly or at present entertained. But, as a few authors are mentioned by name, those writers who are not referred to may object to the omission; still, as we have already stated, we think that such an omission is not at all to be regretted, where the author does not in any way imply that the doctrines originated from himself.

Dr. Carpenter's work is certainly a highly scientific and philosophical treatise—rich in novel and valuable facts, it will prove as interesting to the senior who gained his physiological knowledge from the immediate successors of Hunter and Monro, as to

Lord Carleton, in describing the assassination of the Duke of Buckingham, alludes to the gush of blood from the Duke's mouth, and the wound, which followed the stab; but Sir H. Wootton, (who wrote in 1651), in narrating the same event, and evidently deriving his statement from Carleton's narrative, describes that when the Duke plucked out the knife "on a sudden effusion of *spirits*, he sunk down and immediately expired." The term "effusion" would certainly not have been used except to express the escape of a fluid. For many years subsequently to the discovery of Harvey the word *spiritus* was applied to express the influence conveyed by the nerves, as shewn in A. Nuck's "Adenographia Curiosa," 1692; where we meet with the expression "à spiritibus copiosius per nervos in glandulas affluentibus," (p. 47.) From the prevalence of this latter theory, the adoption of the common terms, "high spirits" and "low spirits," was evidently due.—*Rev.*

the student whose mind is now for the first time beginning to recognise the surprising wisdom of the Creator as displayed in the construction of organised beings.

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*Outlines of the Course of Qualitative Analysis followed in the Giessen Laboratory.* By HENRY WILL, Ph.D. Professor of Chemistry, &c., with a Preface by Baron Liebig. 8vo. pp. 104. London: Taylor and Walton. 1846.

THIS work appears opportunely as a guide-book for those who are actively devoting themselves in the Royal College of Chemistry, and in other institutions, to the study of Practical Chemistry. The success which has been known to attend the method of teaching adopted in the laboratory of Giessen, rendered some information upon the subject desirable; and here we have a manual by Professor Will, composed under the immediate superintendence of Baron Liebig. One sentence from the preface will explain the author's object. "The present work is designed for use in the laboratory: consequently every thing which does not immediately refer to the process of analysis is very properly excluded." We do not doubt that Baron Liebig's anticipation of this volume being acceptable to the English reader will be fully realized; for it is one of the best introductions to chemical analysis which we have seen. It is well written, clear and concise. Indeed, a beginner might rather complain of its brevity, were it not that this disadvantage is counterbalanced by an entire absence of confusion in the details of the experiments and analytical processes. To enter a laboratory under any circumstances, a student must already be prepared with some preliminary knowledge of the science; and it is certainly advisable, if it be in his power, that he should first attend a course of lectures, so that he may become familiar with many points necessary for his guidance. After this, a manual like Dr. Will's will be found most acceptable; since, by a repetition of the experiments comprised in a few pages, he will find that his progress will be rapid. Rose's Chemical Analysis is an excellent work, but the great objection to it is, that while the mass of information contained in it is much greater than that required by a student, there are no means to guide him in the selection of those parts which are the most simple, useful, and practical. Notwithstanding the conciseness of Dr. Will's manual, he has properly made a subdivision of it;—so that the student is at once informed of all the substances of rare occurrence by their being placed in brackets.

The tests directed to be applied to each substance are well selected and arranged; and the differences which exist among bodies forming the same group, as well as among the groups themselves, are very satisfactorily explained. Some of the author's results do not exactly coincide with those obtained by other chemists; but every one acquainted with chemistry is fully aware of the very different results procurable from the reaction of two bodies on each other, according to relative quantity, degree of concentration in the state of solution, temperature, and even the addition of one before the other. We feel, however, satisfied that in this volume there is a large amount of most useful information, and while we recommend it to every student of practical chemistry, we have not the least doubt that it will speedily become a text-book in all chemical laboratories where the science is practically taught.

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REPRODUCTION OF DISEASED BURSÆ.

THERE is a bursa between the patella and the skin, and this, in housemaids, sometimes becomes diseased, and converted into a hard lump or tumor. I have frequently removed such a tumor from the knee of a housemaid, and some time afterwards, on examining the limb, I was satisfied that the bursa had been regenerated. Nor is this a mere supposition; I have positive proof that the fact is as I have stated it. There was a woman in the hospital from whose knee the late Mr. Rose removed an enlarged bursa. A year or two afterwards she returned, and came under my care; and not only had the bursa been regenerated, but the new one had become diseased like the old one, and I had to repeat the operation which Mr. Rose had performed formerly. She had gone back to her former occupation, which included a good deal of kneeling, and, under the influence of pressure, the new bursa had become converted into the same diseased structure as the old one.—*Sir B. Brodie's Lectures on Pathology and Surgery.*

## Medical Trials and Inquests.

NORWICH LENT ASSIZES.

April, 1846.

*Trial for the Attempt to Procure Abortion. Is White Hellebore a Poison ?*

[Before Mr. Baron PARKE.]

SARAH WHISKER was charged with administering to Frances Bailey, on the 5th of March last, a small quantity of white hellebore, for the purpose of procuring abortion.

Mr. Bircham appeared for the prosecution, and having stated the facts to the jury, called

Frances Bailey, who stated that she went to the prisoner's house to have her fortune told, and whilst there, the prisoner taxed her with being in the family way, which she admitted, and said, she was seven months gone. The prisoner told her to come in the evening, and she would give her something that would do her good, and not prevent her from going on with her work. She accordingly went, and the prisoner gave her a liquid and a powder, with instructions how to take them. They were taken accordingly, and the result was, that she became very ill and sick. She left her place, and went to Yarmouth, and in a day or two she became so unwell that she was obliged to have medical advice.

Mr. Burgess, surgeon, of Yarmouth, attended the prosecutrx, and stated the situation in which he found her. She was suffering great prostration of body. The stomach was very hot,—the pulse exceedingly low, and the patient evincing a disposition to retch considerably; and on his first seeing her he considered she was in a dangerous state, which induced him, after ascertaining the cause which had produced her illness, to apply to the Mayor upon the subject, with the view to have her deposition taken, and he prisoner apprehended.

Mr. Worship, of Yarmouth, surgeon, was examined as to the condition of the prosecutrix, and Mr. Cook, druggist, of Norwich, who deposed to having frequently sold hellebore to the prisoner. The female servant of the prisoner was called, who deposed to having frequently seen young persons at her mistress's house, and that she had frequently been sent by the prisoner to Mr. Cook's to purchase white hellebore, hiora picra, dragon's blood, and turpentine.

At the close of the case for the prosecution, Mr. Prendergast took an objection to the indictment, that the evidence did not sustain the count for administering poison, the testimony of the medical gentlemen not establishing that hellebore was a virulent poison. The learned Judge, after much consideration, said, he would consult with Mr. Justice Maule upon it; but the indictment evidently ought to have contained a count for administering poison or some other *noxious* thing.

On the return of his Lordship into court, he expressed a wish to put further questions to Mr. Worship; and on that gentleman being re-called, he further stated, that, in his opinion, hellebore was noxious to the system, and produced ill effects, but he knew of no case in which it had produced death; under these circumstances, he was not justified, he thought, *in calling it a poison.*

Mr. Page Scott, surgeon of the Castle, who happened to come into court at this time, was called upon by the Judge, and asked some questions by his Lordship; and he stated, that he was acquainted with hellebore, and, in his opinion, it was a noxious poison. As a medical man, it was decidedly his opinion that *it belonged to the class of drugs called poisons.*

His Lordship then intimated that he should leave the case to the jury.

Mr. Prendergast then addressed the jury for the prisoner; and relied strongly upon the evidence not establishing hellebore as a poison.

His Lordship, in summing up, was of opinion, that *that was a poisonous drug which in common parlance was generally understood and taken to be such;* and the evidence for the prosecution, he thought, was sufficiently strong to bring hellebore within the meaning of the statute.

The jury returned a verdict, "that the prisoner was guilty of administering hellebore with intent to procure abortion."

The Judge.—Do you find hellebore to be a poison ?—Foreman. The medical men seem to differ on the point; and, therefore, we have not considered that question.—The Judge. You ought to take the way in which, in common understanding, it would be considered. You had better consider whether it is a poison or not.

The jury almost immediately found, that it was a poison, but unknown to the prisoner.

His Lordship then had Mr. Cook, the druggist, re-called; who stated, that the prisoner had been in the habit of purchasing hellebore at his shop for the last three years. She had purchased from half an ounce to an ounce at a time, and had done so once or twice a week for a considerable time.

A witness was called, who gave the prisoner a good character for being a kind-hearted woman.

His LORDSHIP then proceeded to pass

sentence :—The respectable gentleman, observed the learned Judge, who had last given evidence, was not aware, he thought, of the practices of the prisoner. She had been found guilty of a very serious offence, and if in any one of the numerous instances of a similar kind in which she had acted, death had been occasioned, she would most undoubtedly have been tried for wilful and deliberate murder. As the case then stood, he must make an example of her, and pass a severe sentence—as severe as the law would enable him to do; which was, that she be transported beyond the seas for the term of her natural life, as a just reward for one in the catalogue of those numerous offences which too many young women, he feared, if brought forward, would be able to relate.

Remarks.—The most curious feature in this case is the discrepancy in the medical evidence upon a point, concerning which we should have thought no doubt could have existed in the mind of any professional man. Is white hellebore *(Veratrum Album)* a poison, or is it not? One witness admitted that it was noxious to the system, and produced ill effects; but as he had known of no case in which it had produced death, he did not think he was justified in calling it a poison! Fortunately for the ends of justice (the words "noxious thing" having apparently been carelessly omitted in drawing up the indictment) another surgeon happened at this time to come into court, who unhesitatingly gave it as his opinion that it belonged to the class of drugs called poisons.

White hellebore owes its activity to veratria, one of the most formidable among the poisonous alkaloids. The existence of such an alkaloid in white hellebore, if known to the witness, should have satisfied him that it was a poison. If he did not know that it contained veratria, then he was very unfortunately situated to have so material a question put to him. In a very large number of cases, white hellebore powder has been known to act as a powerful irritant, causing violent vomiting and purging, with great prostration of strength. In most of the instances of poisoning by it hitherto observed in the human subject, the persons have recovered; but in one case quoted by Wibmer,* a man took as much of the powdered root as would twice cover the point of a knife, vomited seven or eight times, and died the same evening. The same case is quoted by Dr. Christison in the last edition of his work.† The medical witness might therefore have readily satisfied himself, by referring to an easily accessible work, that he was decidedly mistaken in his opinion :—that in short, white hellebore was not merely *noxious*, but a powerful *poison*. If it produce abortion, it is only by its strong irritant action on the bowels. In the fatal case above quoted from Wibmer, the œsophagus, stomach, and colon, were inflamed. As an additional illustration of its poisonous action, this author relates that twenty grains of the powdered root caused in a dog severe vomiting, purging and convulsions, followed by death in a quarter of an hour. These facts bear out the view taken by Mr. Page Scott. The prisoner, however, nearly escaped conviction; for even the jury were misled by the difference in the medical opinions, on a question on which no reasonable medical doubt can properly exist. The case furnishes in this respect a warning to medical witnesses.

* Die Wirkung der Arzneimittel. 2 B. S. 409.
† Treatise on Poisons, p. 880.

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NOTTINGHAM LENT ASSIZES.

March 1846.

*Trial for attempting to procure abortion by mechanical means. Death from other causes. Evidence from the presence of Corpora Lutea.—Is it necessary that there should be proof of pregnancy?*

Mary Goodall, a woman of about 30 years of age, stood indicted for that she, on the 9th of February last, feloniously used a certain instrument or piece of wire upon the body of Catherine Snowden, with intent to procure abortion.

Mr. Macaulay conducted the prosecution, and Mr. Miller the defence. It appeared that the deceased, believing herself to be pregnant, solicited the prisoner to perform the operation of puncturing, which there was no doubt she either did perform or attempted to perform; but the medical evidence went to show that the deceased was in point of fact mistaken as to her having been pregnant, and the jury negatived her being in that state. It appeared that the girl had long been the subject of chronic cough, and otherwise ailing, and that she died from causes independently of the interference of the prisoner. The case for the defence was, that although the deceased might have believed herself to be pregnant, there was no evidence to show that the prisoner so believed, which was necessary in order to convict her under the statute upon which she was indicted; but, on the contrary, that she believed that another ordinary evil, which a severe chronic cough might cause, existed,—her sufferings on account of which the prisoner sought to relieve. The surgeons said that they had never heard of a wire or other instrument being used for the purpose suggested. The prisoner herself, on the 17th of February, applied to a surgeon, who

attended the deceased at her lodgings. He observed to the prisoner,—"You have nearly killed the woman." The prisoner answered, "that if she had known that she was more than a month gone, she would not have done it, and, as it was, the deceased went down on her knees to ask her to do it, and she made the attempt, but her hand trembled so she could not do it, and was sure she did not hurt her." The deceased had had twins twice before. There was no evidence to show that the prisoner had received any money or other consideration, although it was mentioned by her counsel that there were people who were in the habit of doing such things, and that there existed a regular scale of charges, according to the length of time which the women might respectively have gone. When the surgeon was leaving the deceased on his first visit, the prisoner followed him, put her hand on his shoulder, and asked him to say nothing about it. Dr. Watts and Dr. Thompson agreed that there had been *no pregnancy in this instance*, and deposed, that, supposing conception to have taken place for even two or three weeks, there would have been signs on dissection. The ovum, they said, probably would descend into the uterus in about 21 days, and might be discharged, by such instrumentality as had been described, through the vagina. There were certain characteristic appearances in the ovaries, *i. e.* corpora lutea—small yellow bodies, which would disappear after some time. A corpus luteum might be true or false. There was in this instance a false one. Such instrumentality as that described might or might not produce inflammation. It was a very hazardous proceeding.

The case for the prosecution being closed,

Mr. Miller submitted that the legal offence was not proved; he proceeded to refer to the words of the present act of Parliament, and to those of the former act, as well as to the case of "The King v. Scudder," in *Moody's Crown Cases*, p. 216, decided under the old act. The learned counsel then referred to the 43d George III., cap. 58, sections 1 and 2; the 9th George IV., cap. 31, section 13; and an act of the 7th of William IV., and the 1st of Victoria. The first section of the first act provided as to "Where any woman then being quick with child," &c., and made the punishment capital; the second section as to "where not quick," &c., which was made a transportable felony. The 9th of George IV., which repealed the old act, used the words, "with the intent, &c., to procure a miscarriage," &c.; and made it an aggravation, amounting to a capital felony, where the woman was quick with child at the time. In the recent act, this distinction was not made. The learned counsel proceeded to contend, upon the authority of the case cited, that the prisoner could not be convicted of the felony at all under this indictment, founded upon the modern act of Parliament, *where the medical evidence furnished negative proof as to the existence of pregnancy.* He cited the passage from *Russell on Crimes and Misdemeanors*, as to the infant (fœtus) in the womb not being the subject of murder, but the attempt to cause miscarriage still being a misdemeanor at common law. He then referred to a note of the learned editor of the edition of "Russell, C. C.," published in 1843, and to Mr. Jervis's last edition of Archbold, as well as to the late Mr. Roscoe's work on evidence.

Mr. Justice Coltman said, he thought that it was proved that the deceased was not with child, and that the learned counsel had shown sufficient to entitle him to have the point reserved for the opinion of the judges; and his Lordship reserved the point accordingly.

Mr. Miller then proceeded to address the jury upon the facts. He contended that the evidence did not show that the prisoner at the time believed the deceased to be pregnant. The deceased appeared to have been a spare, thin person, with a cold, and chronic cough, which were calculated to cause obstruction of another nature.

The jury presently returned a verdict of *Guilty*, with a recommendation to mercy.

The point of law having been reserved, sentence was of course deferred.

[There is a very general impression in this place that the grave crime here charged, has long been, and is, committed in this town to a very great extent, and that numerous deaths from it have recently occurred.]

*** The singular part of this case is in the mistake made regarding the pregnancy of the female. All the statutes against criminal attempts at abortion, have, with the exception of that now in force, directly or indirectly referred to the condition of the *pregnancy*. No decision has been come to by judges on the necessity for this proof; nor is it yet determined whether, where, as in the present case, the female is proved *not* to have been *pregnant* at the time the attempt was made, the party charged with the crime can or cannot be legally convicted. The statute in this respect is defective. There is no doubt that the attempt is often made designedly upon females who are not pregnant, but who suppose themselves to be so: and this is in itself a grave offence. In the meantime, until this point has been settled by our judges, it is the duty of a medical practitioner to examine carefully the uterus and appendages for marks of pregnancy in every case in which a post-mortem examination can be made.

# Selections from Journals.

## TOXICOLOGY.

### REPORT OF A CASE OF POISONING WITH STRYCHNIA. BY JAMES EDWARD, M.D. LICENTIATE OF THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

On the 7th of January, 1846, about two o'clock P.M., a messenger was brought to me from Haig's House, Glen of Ogle, Forfarshire, requesting me to go immediately to inspect the body of John Findlay, gamekeeper there, who had been found dead in his bed, about 10 o'clock A.M. When I arrived, I was shown into the butler's pantry, in the north wing of the house, where there were two beds. After turning down a covering and three pair of blankets on the bed next the door, I saw the body of the deceased lying on its back, and stretched at its full extent; it was covered with a cotton shirt, below which there was one of flannel.

*Autopsy.*—I observed, *externally*, considerable discoloration about the neck, chest, and depending soft parts of the body; and also, several scrofulous scars and pits about the neck, sternum, and back. The eye-balls were somewhat prominent; the pupils were dilated; the mouth was firmly shut; the arms were lying over the chest; and the hands were firmly clenched. The whole body was in a state of rigidity. *The lower extremities were particularly stiff, and the left foot was concave.* There were no marks of external violence.

John Anderson, farm-servant at Ogle, gave me a half-ounce phial, without a cork, containing a small quantity of a white powder; the phial was labelled strychnine, and had the word "*poison*" marked under it. He also produced a teaspoon, with some white powder adhering to it, which he stated to me was lying at the bed-side of the deceased, on a table beside the phial; a little of the white powder was lying on the table, which I collected on a piece of paper. I found a cork below the table, tarnished with white, which fitted the phial. By analysing the contents of the phial, the white powder on the table, the tarnish on the cork, and the powder adhering to the teaspoon, I found them all to be strychnia.

On the 8th—twenty-eight hours after death—agreeable to appointment, in company with Alexander Smith, M.D., and William Hutchinson, Esq., procurator-fiscal of Forfarshire, I inspected the *interior of the body.* Evident signs of putrefaction were present, and partial relaxation of the joints had taken place. The brain, its membranes, the skull-cap, and integuments of the head, seemed to be healthy; but there was general turgescence of all the vessels. The right lung was full of incipient calcareous tubercles; it was partially consolidated in the inferior lobe, and adhered to the ribs throughout. The left lung was studded with a few tubercles, but was free from adhesions. Both lungs were congested with dark fluid blood. The heart was considerably dilated, but was not hypertrophied: the substance, valves, and vessels, were healthy; it contained a quantity of dark fluid blood. The stomach having been first secured with two ligatures, the one on the pyloric, the other on the cardiac opening, was removed from the body, for farther examination. The liver adhered strongly to the diaphragm, the adhesions being the consequence of inflammation, for which I attended him five years ago. The substance of the organ was healthy, The spleen was somewhat enlarged, and full of dark fluid blood. The large and small intestines were distended with flatus, but did not show any other appearance requiring notice. The kidneys and urinary organs were healthy.

An emission of semen had taken place during the last moments of existence. The spinal marrow was not examined, from want of time.

*Analysis of Stomach and its Contents.*—The stomach and its contents were boiled for half an hour in common vinegar, and the decoction filtered, which was clear and transparent. On adding liquor ammoniæ to a portion of this decoction, a fine white precipitate was thrown down, to which, when nitric acid was added, a pale red colour was produced, and on dilution with water, and the addition of the tincture of the sesquichloride of iron, a pale green colour was produced, which became more apparent on being allowed to stand for some time. A sample of strychnine from the shop, treated in the same manner, produced the same colours. The strychnine, however, found in the possession of the deceased, amounting to about half a drachm in a phial, on being treated in the same way, produced a much deeper red with nitric acid than either that produced from the stomach, or the sample taken from my own laboratory, and on the addition of the tincture of iron the colour was more of a pale yellow than a green. On adding the tincture of galls to another portion of the contents of the stomach, a white adhesive precipitate was produced. The strychnine found in the possession of the deceased did not dissolve in water, which I think proper to mention, as I consider that quality to be the best test of the lot (?), in so far as I treated hydrochlorate of morphia in a similar manner to both specimens of strychnine, and that procured from the stomach, and it was impossible to tell from the colours which was the strychnine and which the morphia; the two

samples of strychnine differed more between themselves in colour than the morphia and strychnine when subjected to the same reagents.

From what has been stated, I have no hesitation in giving it as my opinion, that Findlay died from strychnia. He appears to have taken it wilfully, as it was entrusted to his care by his master, for the purpose of destroying vermin. The quantity swallowed cannot be exactly ascertained. The deceased was in his usual health at seven A.M., and was found dead at ten A.M. Judging from the report of his comrades, I believe about ten or twelve grains had been taken from the phial since it had last been seen by them."—*Cormack's Monthly Journal*, April 1846.

*** It is not at all improbable that the poison taken was strychnia, but the chemical evidence respecting it is not very clear. The red tint given by nitric acid is characteristic of brucia or morphia, and not of strychnia. Common strychnia always contains more or less brucia; hence the depth of colour given by nitric acid is subject to continual variation. The sesquichloride of iron gives a green colour with *strychnic acid*, but not with pure strychnia; ammonia and tincture of galls precipitate the salts of, we believe, all the alkaloids. The great difference in the salts of strychnia and morphia exists in relation to the terchloride of gold. The gold is reduced and thrown down as a purple brown powder by the salt of morphia, but not by that of strychnia. Precipitated morphia is easily soluble in caustic potash: precipitated strychnia is not soluble in that alkali. So far as the chemical analysis extends, therefore, the powder might have been morphia, which gives a greenish colour with sesquichloride of iron, when the test is added in a little excess. The only evidence of the deceased having taken strychnia, is the statement in the latter part of the paper, that strychnia had been entrusted to the care of the deceased by his master for the purpose of destroying vermin.

## ANIMAL CHEMISTRY.

### MODE OF DETERMINING THE AMOUNT OF URIC ACID CONTAINED IN A GIVEN SPECIMEN OF URINE. BY HELLER.

It is well known that uric acid is precipitated by adding hydrochloric acid to urine, and allowing the fluid to remain at rest for some hours. Sulphuric and nitric acid, also, will cause the separation of uric acid from urine, though less perfectly than hydrochloric; for nitric acid, even when diluted, causes the loss of a portion of uric acid through oxidation, as Heller found by experimenting upon a known quantity of uric acid; whilst sulphuric acid, on the other hand, allows of a small quantity of the uric acid being retained in solution. Even hydrochloric acid, when strong, dissolves a portion of uric acid; but not when diluted; in which latter form, therefore, it ought always to be employed in testing for uric acid. In order to determine the quantity of uric acid in a given portion of urine, and then to ascertain, whether there be an increase or deficiency beyond the normal average, Heller recommends the following process:—Take a glass cylinder, from five to six inches in length, and about one and a half inches in diameter, and fill it almost to the top with healthy urine, the weight of which is known. Mark on the glass with a diamond, or piece of flint, the height which the fluid occupies; then add from one to two drachms of hydrochloric acid, stirring it with a glass rod; after which cover over the vessel, and leave it at rest from twelve to twenty-four hours: at the end of which time we usually observe uric acid deposited in crystals along the sides, at the bottom and on the surface of the glass. By this means we ascertain the quantity of uric acid crystals which are deposited from a known quantity of healthy urine. The experiment is now to be repeated; but this time we fill up the glass to the old mark with the unhealthy urine requiring examination, treat it as before with hydrochloric acid, and leave it at rest: the greater or less proportion in which the crystals of uric acid may form, as compared with those deposited from the same quantity of healthy urine, will indicate the excess or deficiency of this acid. The graduated glass vessel will, of course, serve for repeated experiments, but it is essential to bear in mind in all such experiments the quantity of uric acid which was thrown down from healthy urine. Should it be desirable to ascertain the exact weight of the uric acid deposited from a given portion of urine, the crystals must, of course, be removed and weighed; but, since the object is rather to ascertain whether the acid be in excess or deficiency, than to obtain its exact weight; and since the process of drying and weighing is tedious, especially when examinations for the same purpose have repeatedly to be made, it will be sufficient simply to compare the quantities deposited with that obtained from healthy urine.

In albuminous urine, especially when the albumen is in large quantity, so as to be deposited on the addition of hydrochloric acid, we know *à priori* that in such cases there is always a deficiency of uric acid. To ascertain, however, the exact proportion in which it exists, the urine must first be boiled in order to coagulate the albumen, which must then be removed by filtration, and the clear fluid treated as above described for determining the quantity of uric acid in non-

albuminous urine.—*Heller's Archiv. für Chemie und Microscopie*, Heft 1, 1844.

In alluding to the above observation of Heller, Sherer* remarks, that considerable inaccuracy would result from relying entirely on this mode of estimating the amount of uric acid in a given quantity of urine, because he finds that a portion of the acid remains in solution even after the addition of dilute hydrochloric acid; and, moreover, that the quantity of this soluble portion varies according to the degrce of dilution of the fluid, which will be another source of inaccuracy. To avoid these fallacies, therefore, Scherer recommends that previous to adding the hydrochloric acid, the specific gravity of the urine under examination should be reduced to the normal standard: thus, if the density of the specimen of urine be greater than natural, it is to be reduced by the addition of distilled water; if, on the contrary, it be less than that of an equivalent quantity of normal urine, it must be increased by gently evaporating off the excess of water. Having thus brought the specific gravity of the urine to the healthy standard, the remainder of the process for determining roughly the relative amount of uric acid which it contains may be proceeded with in the manner pointed out by Heller.

### DETECTION OF URIC ACID IN URINE CONTAINING BILE-COLOURING MATTER.

When the urine contains biliphæin, the uric acid, in small quantity, is frequently combined with it, and, upon treatment with hydrochloric acid, is deposited from the urine generally under the form of a dark green amorphous powder which subsides to the bottom of the glass: after pouring off the supernatant urine this slight sediment (or the last few turbid drops) is to be mixed with nitric acid, and evaporated almost to dryness, then to be tested for uric acid with ammonia, which will detect it, even though no crystals have been formed in the vessel or could be discovered in the sediment by means of the microscope. The colour of the uric acid deposited by means of hydrochloric acid varies according to the substance with which this acid is combined: thus, when combined with uroerythrine, it usually appears of a more or less reddish yellow colour, and in inflammatory urine, of a deep reddish-brown or brownish-black colour: the crystals deposited from healthy urine are of a faint yellow colour, becoming redder and of a deeper tint in proportion to the phlogistic state of the system. When combined with biliphæin the uric acid deposited by hydrochloric acid has usually a greenish colour; when there is only a small quantity of uric acid present in the urine, and a tolerably large quantity of biliphæin, then the two substances are precipitated together in the form of a dark green amorphous powder, whilst the urine itself becomes of a deep green colour, but without undergoing those changes of colour which it does when treated with nitric acid.

Should the uric acid be precipitated spontaneously (without the addition of hydrochloric acid) from urine containing biliphæin in large quantity, it is commonly of a deep golden or lemon-yellow tint. If the urine contains altered bile-pigment, as is sometimes the case in choleric patients, the uric acid deposited by hydrochloric acid has a blue tint, with a coppery-red metallic lustre, and the crystals are clear and perfectly transparent.—*Heller's Archiv. für Chemie und Microscopie*, Heft. 1, 1844.

* Report on the Progress of Physiological Chemistry, in 1844, in Canstatt's Jahresbericht, Bd. 1, 1845, p. 132.

## PATHOLOGY.

### ON THE CONTAGIOUSNESS OF PUERPERAL FEVER, AND ITS INTIMATE CONNECTION, OR ASSOCIATION, WITH ERYSIPELATOUS AND PHLEBITIC INFLAMMATION.

In a paper under the above title, read at a meeting of the Medico-Chirurgical Society of Edinburgh (12th November, 1845), Dr. Peddie arrives at the following conclusions:—

1. That a specific virus, of an animal nature, is produced under certain circumstances, and in turn generates a peculiar form of fever in the puerperal state.

2. That the virus frequently originates from erysipelatous inflammation.

3. When once generated, it may be communicated from one lying-in patient to another with extraordinary virulence, quite independently of locality or epidemic influence, either by direct intercourse, or through the medium of a third person; and that this is more likely to happen where the predispositions of a weak body and a depressed mind exist.

4. That it may also produce disease of various kinds in non-puerperal individuals; more especially of an erysipelatous and phlebitic character.

5. That the treatment of a contagious puerperal fever, whether directed by theoretical opinions, or the indications of physical signs, proves of little avail; but that if any theory is to be entertained respecting this malady, it should be that something of a specific and morbific nature requires to be thrown out of the system, and the powers of life at the same time sustained; and that the practice which holds out the greatest prospect, small at best, of this being accomplished, is the adoption of the diaphoretic and stimulant plans, according to the stage of the disease.

6. That the principal concern of the medical man should be (seeing that a cure is so rare) to adopt every conceivable precaution against the occurrence of a single case of this disease, or to lessen the risk of its propagation when once established in his practice. And to attain these ends patients in child-bed should either not be attended at the same period with cases of malignant or severe erysipelas, or that proper caution should be observed as to ablutions, more especially after contact with any discharge from such patients; and when a case of puerperal fever does occur, lest it should be something more than sporadic, chlorinated ablutions and change of garments is first required; and should a second case occur, it would be the safest plan for the practitioner to abandon the practice of midwifery for a time—two or three weeks, if possible—and in the interval attempt, by removal into the country, warm baths, and other alterative and purifying means, and by the exposure of his clothing to a free atmosphere or a high temperature, to rid himself of the subtle and powerful virus which adheres to him so tenaciously.—*Monthly Journal of Medical Science.*

[Remarks.—We feel disposed to extend our cautions considerably further than Dr. Peddie has done.

We do not considerat th a medical man is justified in waiting until a second case occurs, or, in fact, in attending any patient in child-bed for at least a week after a case of puerperal fever has occurred in his practice, and the same caution should be adhered to whenever the practitioner is in attendance upon persons suffering from any severe form of erysipelatous or gangrenous disease. A fearful array of cases are now upon record in which the contagious matter of puerperal inflammation has been transmitted by the accoucheur from patient to patient with the most disastrous results. A considerable number of instances have been collected in which a similar deadly influence has been conveyed by those who have lately been engaged in the treatment of erysipelatous abscesses and sloughing sores. The following striking instance of the latter kind is related by Mr. Teale, in his recent work on hernia. "One evening, at the dissection of the body of a patient upon whom I had operated for strangulated hernia, several surgeons were present. Of these, two attended one case of midwifery each during the following night, and a third three cases. The two patients attended by the first two surgeons died of puerperal fever. Two of those attended by the third surgeon also died; and his third patient escaped death from this formidable malady with the greatest difficulty, after having been in extreme danger several days."

These are certainly stern warnings, which should not be lightly disregarded.—Ed. Gaz.]

### SWALLOWING OF PINS.

A maid-servant, while engaged in hanging up some curtains, accidentally swallowed a pin. Dr. Neumann, who was immediately sent for, found her pale from fright, and in a state of general tremor. She did not complain of pain in any part, and as she swallowed solids and liquids without difficulty, Dr. N. persuaded her that she had been probably deceived by her sensations. Her cheerfulness soon returned, and she enjoyed her usual health.

About a year afterwards, Dr. Neumann was suddenly sent for to remove the pin. On his arrival, he ascertained that the female had for some days felt an itching pain in her left side, which she attributed to the presence of the pin. A small pustule was observed over the region of the descending colon, and in this was the pin with the point projecting outwards. It was easily removed by the forceps, and was found to be perfectly clean. It had thus been in the alimentary canal for a year without giving rise to any unfavourable symptom.—*Casper's Wochenschrift*, 14 März, 1846.

## MICROSCOPICAL PATHOLOGY.

### KLENCKE'S EXAMINATION OF HYDATIDS FOUND FREE IN THE BLOOD.

The capillaries are often found connected with a little bag filled with hydatids, the true nature of which cannot be explained on account of their minuteness, and there is often an interruption or rupture of the capillaries at the point where they are found. This circumstance, in addition to another, namely, that hydatids are principally found in tissues rich in blood-vessels, led Klencke to form the opinion that the animals entered the system by means of the circulation. The discovery made by our author that they propagate as other animals by ova, is not only favourable to this idea, but at once sets aside the opinions of Cruveilhier and others as to the spontaneous origin of hydatids.

The microscopic bodies noticed occasionally in fresh-drawn blood, and which are, at least, foreign to it, cannot be positively described as hydatid ova. The blood of a man who had acephalocyst hydatids in almost every organ, as well as in the cellular tissue, was examined by Klencke, and he found in it small cheese-like conglomerations of cells, not unlike those he had observed in connection with specimens of echinococci. Now, acephalocysts are simply masses of ova of the echinococcus in an advanced stage of development. Klencke therefore infers that the microscopic objects observed were really

the rudiments of auphalocysts. But he has actually seen other species of hydatids in the blood. He found a cysticercus in the blood of the vena cava superior of a female, and an immense number of acephalocysts and echinococci in the splenic and portal veins of a person who had the liver and spleen affected with those entozoa. Further examples of this kind are as follows:—in a vessel of the pia mater, a group of acephalocysts; in a capillary vessel of the conjunctiva of the upper eyelids, an encysted, well-developed specimen of the cysticercus; acephalocysts lying unattached in the cavity of the heart; an isolated large acephalocyst attached to the free margin of an aortal valve (!) encysted echinococci in the varix of a varicose vein in the leg of an aged female; acephalocysts in the blood evacuated from a tumor (of what description?) on the elbow. These facts show, in the author's opinion, that hydatids do really enter the circulation, and may block up the capillaries. As to the mode of entrance, there can be no difficulty, for often the hydatid cyst is in direct connection with the mouth of a blood-vessel, nor is it at all impossible that they may make their way from the intestines into the circulation.

If the facts be true, as stated by our author (and we know not why they should be doubted), it cannot be denied that hydatids do enter the circulation, and that they should be considered as a true *contagium animatum*. Ova once in the circulation, we can readily infer, with our author, that they will be deposited most numerously in those organs where blood-vessels are most numerous, as the brain, liver, spleen, lungs; and that their first nidus will be a capillary too small in diameter for their transit. Here they will be developed and reproduced; here inflammation, exudation, and the formation of a cyst, will take place; and from hence ova may find their way into the circulation, and be carried to other parts of the body.—*British and Foreign Medical Review*, from *Klencke's Impversuche und natur-historisch pathologische Untersuchungen zur Erforschung der Helminthiasis als Contagium.*

## Correspondence.

### THE DUEL AT GOSPORT — MR. SETON'S CASE.—REMARKS ON THE OPERATION FOR TYING THE EXTERNAL ILIAC.

SIR,—The greater part of the *séance* at the meeting of the Medical and Chirurgical Society having been occupied by the reading of Mr. Liston's paper, and so little time having been left for discussing the important question submitted to the Fellows for consideration, I did not think that the debate was to be finally closed, so as to prevent any further remarks at a subsequent meeting. Supposing that the question would be again brought forward, I attended last evening intending to make one or two additional observations in reply to those of Mr. Liston; and after the thanks of the society had been expressed to the author of an interesting paper which was read, as no one seemed disposed to comment upon it, I reverted to the subject of discussion at the former meeting, but desisted upon the intimation of the president that more time must be allowed to see whether any remarks would be offered upon the paper which had just been read. After a silence of several minutes, the president proposed to pass on to the reading of another paper, when a gentleman at length rose to speak, who was followed by two or three others. In the meantime a member stated to me his opinion, that it was contrary to the rules of the society to revert to the subject of a former discussion, which the president, after referring to the rules, confirmed. Being little of a debater, I had attended few of the meetings, but was induced to go and hear the discussion upon a case which had attracted so large a share of public attention, though not expecting to take any part in it myself, and was somewhat surprised at the long silence that followed the reading of the paper, as I had heard that some members who objected to the treatment adopted, would be present. Mr. Liston afterwards stated that he had written to several gentlemen who he understood had criticised his practice in this case very freely, but for some reason or other they had declined to attend. Did it not strike Mr. Liston that persons with whom he was on terms of intimacy or acquaintanceship might not perhaps like publicly to express disapprobation of his practice? At all events the absence of members whose position would authorise them in freely expressing an adverse opinion, can scarcely be construed into a general approval by the profession of the treatment pursued, and I was induced to submit the few observations which I made to the society, not with the intention of imputing blame, which (not having seen the case) I should not have felt myself justified in doing, but in order that the principle which the consideration of the question involved; viz. that of tying the proximal portion of an artery of the first class, in cases of traumatic aneurism which had existed a few days, and which I conceived was opposed to that laid down by the first authorities, should not go forth under the sanction of Mr. Liston's name, and that of one or two other gentlemen whose opinions have weight with the profession, and stamped with the approbation of the first Medical Society in the kingdom, without some reference to the exceptional conditions

demanding consideration when the external iliac is implicated, and thus constitute a precedent for encouraging the tendency to operate which it is the peculiar character of British surgery to avoid as much as possible.

Mr. Liston observed, "that he could not understand the gist of my remarks, which did not appear to him to have any direct bearing upon the case;" but I think the fellows of the society, and those who have read the report of the debate, will consider that they did bear most directly and solely upon the practical part of the question. Their purport was to object to the principle of applying a ligature to an artery, by which the supply of blood would be suddenly cut off from nearly one-fourth portion of the body, without there being any adequate means of supplying the deficiency. This objection would more particularly apply to a person accustomed to free living, of a full habit of body, who was already exhausted by loss of blood, and in whom there was no recurrence of the hæmorrhage, although there might be reason to apprehend such an event, which even had it occurred would not have been necessarily irremediable, without having recourse to so extreme a measure, even if the crural itself had been certainly wounded. I think the opinions which I expressed in the society will be found to be corroborated by the best authorities upon similar questions, of whom perhaps none stands higher than Larrey, who observes, in his Clinique Chirurgicale, with reference to truamatic aneurisms: "The ligature is truly the most sure and certain remedy, but only when it is applied to vessels which are removed from the chief arterial trunks. In arteries of a secondary order, where the anastomoses are more numerous and stronger, the ligature may be applied with much greater chance of success, and thus secure in a prompt and certain manner the existence of the patient, and the preservation of the limb; but on the contrary, in cases where the principal arteries, such as the common carotid, subclavian, axillary, and external iliac, or crural, are injured, the same rule would not apply; the ligature is not always practicable, and whatsoever may be the opinions of authors, it has not always the success hoped for. (This, be it observed, has reference to the cases where the principal trunks are wounded, and if it be just as regards the carotid, axillary, and crural, where there are more abundant means of carrying on the collateral circulation, how much more must the same observation hold good in the instance of the external iliac, which gives off no branches above the epigastric, and supplies so large a portion of the body with blood.)

"The anastomoses of the arterial branches from the portion of the artery above the aneurismal tumor, with those arising below it, become less developed in proportion as the tumor is formed rapidly or suddenly, and the success of the operation is less to be reckoned upon than when the tumor is formed slowly. It is then, doubtless, preferable, especially when the great arterial trunks are implicated, to amputate the limb. Sedatives should, however, be previously tried, and their use persisted in.

"In order to corroborate our opinion respecting the usefulness and the danger of tying the chief arterial conduits, we will relate the following cases. (Here follow several illustrative cases.)

"Now, if we institute a comparison between the operation of tying the principal trunks and our sedative and revulsive method, we shall see, on the one hand, an operation more or less difficult of performance as regards the surgeon, and as regards the patient very painful, and of so uncertain a result, that in thirty individuals where the subclavian, the origin of the axillary, the external iliac, or the origin of the crural arteries, were tied, there are scarcely four or five cases in which the success is complete. Our method having none of the inconveniences of the ligature, presents on the contrary the advantage of arresting the progress of the evil, of favouring the formation and development of new arteries, obliterating the trunk of the wounded ones, by provoking adhesive inflammation in the coats of these arteries and of the surrounding parts. The effects of ice seem to us to be extended to all parts of the circulation; the arterial and venous systems becoming constricted in their diameter, and all the internal organs necessarily experience the influence of this process of constriction or atrophy. As we have already said, when traumatic aneurisms are connected with arteries of a secondary order, as the humeral, radial, femoral, popliteal, or their branches, the ligature may be preferable to any other means, especially if the patient desires the operation, because mortification of the limb is not to be feared, and because it would be useless to subject the patient to a state of absolute repose, a rigid diet, and the application of ice during the time requisite for the obliteration of the vessels which are the seat of the aneurism, and for the production of those which must replace them, which regimen many patients would but ill bear."

More might be said upon the question, but that I fear this letter will already take up a great deal of space in your columns.

I am, sir,&c.

EDWIN LEE.

13, Curzon Street, April 29th, 1846.

## Medical Statistics.

### STATE OF THE PUBLIC HEALTH IN THE QUARTER ENDING MARCH 31, 1846.

THE Quarterly Returns are obtained from 115 districts, sub-divided into 576 sub-districts. Thirty-four districts are placed under the metropolis, and the remaining 81 districts comprise, with some agricultural districts, the principal towns and cities of England. The population was 6,579,693 in 1841. 43,708 deaths were registered in the last winter quarter (ending March 31st). This number is less by 6166 than the number (49,874) registered in the winter quarter of 1845. If the increase of the population (about 1·74 per cent. annually) be taken into account, the mortality will also be found to have been less in the last winter than in any of the 8 previous winters This marked diminution of the mortality occurred in more than two-thirds of the districts from which returns are procured; but is most obvious in the Metropolis, in the Western and North-western divisions. In the districts of the Northern division, alone, of England, the mortality was considerably higher than in the winters of 1844 and 1845; and this is referred by the Registrars to epidemics of scarlatina in Sunderland, Tynemouth and Carlisle. The annexed table shows that the mortality was considerably above the average in the winter quarters (ending March 31st) of 1840, 1841 and 1845, and much below the average in the winter quarters of 1843, 1844, and 1846.

| | 1840 | 1841 | 1842 | 1843 | 1844 | 1845 | 1846 |
|---|---|---|---|---|---|---|---|
| Deaths registered in the March quarters of 9 years . . . . . | 46,206 | 46,809 | 44,746 | 43,620 | 45,965 | 49,874 | 43,708 |
| Deaths which would have been registered if the mortality had been uniform, and the numbers had increased from 1838 at the rate of 1·74 per cent. annually | 43,889 | 44,657 | 45,438 | 46,233 | 47,042 | 47,865 | 48,703 |
| UNHEALTHY YEARS. | | | | | | | |
| Difference above the calculated number . . . . . | 2,317 | 2,152 | | | | 2,009 | |
| HEALTHY YEARS. | | | | | | | |
| Difference below the calculated number . . . . . | | | 692 | 2,613 | 1,077 | | 4,995 |

Temperature, the command of food by the working classes, epidemics, and the general condition of the streets and dwellings, have all a certain effect on the rates of mortality; but there can be little doubt that the low mortality in the present table is to be ascribed to the extraordinary mildness of the winter of 1846. The mean temperature at the Greenwich Observatory was nearly 5 degrees above the average of 25 years, 8 degrees above the average temperature of the winter of 1845. The mean temperature of the week ending February 14th was 39 degrees; of the week ending March 31st, 38 degrees; of all the other eleven weeks in the quarter, the mean temperature was 40 degrees and upwards. The south-west winds (always productive of a mild winter) prevailed; the fall of rain at Greenwich was nearly 6 inches; 10·26 inches of rain fell at Helston, 13·35 inches at Truro, only 1·92 inches at Newcastle-on-Tyne.

*The Metropolis.*—The deaths by small-pox were 77, and ranged from 3 to 9, weekly. In 1845, 481 persons died of small-pox. Measles was the prevailing epidemic at the beginning, hooping-cough at the end of the quarter. Typhus, though more prevalent than in the winters of 1840, 1841, and 1842, was much less fatal than in the winters of 1839 and 1843.

| | Population | Deaths registered in the Quarters ending March 28th. | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 1840 | 1841 | 1842 | 1843 | 1844 | 1845 | 1846 |
| West Districts . . | 301,326 | 1,760 | 2,006 | 1,912 | 1,799 | 1,975 | 2,240 | 1,867 |
| North Districts . . | 366,303 | 2,170 | 2,475 | 2,387 | 2,407 | 2,480 | 2,781 | 2,285 |
| Central Districts . | 374,759 | 2,410 | 2,925 | 2,444 | 2,382 | 2,547 | 2,767 | 2,156 |
| East Districts . . | 393,247 | 2,548 | 3,036 | 2,593 | 2,718 | 2,975 | 2,976 | 2,503 |
| South Districts . . | 479,469 | 3,101 | 3,488 | 3,290 | 3,198 | 3,494 | 3,764 | 3,535 |
| Total . . . . | 1,915,104 | 11,989 | 13,930 | 12,626 | 12,504 | 13,471 | 14,528 | 12,376 |

*A Table of the Deaths in the Metropolis, from all causes, registered in the two first quarters of the years* 1845-46.

| Causes of Death. | Quarters ending March 1845. | 1846. |
|---|---|---|
| All Causes | 14528 | 12376 |
| Specified Causes | 14491 | 12322 |
| Small Pox | 481 | 77 |
| Measles | 381 | 401 |
| Scarlatina | 421 | 221 |
| Hooping Cough | 411 | 767 |
| Croup | 112 | 79 |
| Thrush | 50 | 35 |
| Diarrhœa | 109 | 119 |
| Dysentery | 14 | 20 |
| Cholera | 4 | 7 |
| Typhus | 362 | 410 |
| Sudden Deaths | 207 | 137 |
| Hydrocephalus | 460 | 488 |
| Apoplexy | 343 | 329 |
| Convulsions | 696 | 511 |
| Bronchitis | 632 | 758 |
| Pleurisy | 28 | 33 |
| Pneumonia | 1296 | 946 |
| Asthma | 606 | 244 |
| Phthisis or Consumption | 1972 | 1571 |
| Disease of Lungs, &c. | 249 | 160 |
| Pericarditis | 33 | 17 |
| Aneurism | 21 | 18 |
| Disease of Heart, &c. | 458 | 420 |
| Teething | 227 | 129 |
| Childbirth | 133 | 101 |
| Violent Deaths | 377 | 434 |

STATISTICAL ACCOUNT OF THE ACCIDENTS BROUGHT TO THE LONDON HOSPITAL DURING THE YEAR 1845.

| | | |
|---|---|---|
| Admitted as In-Patients | 2051 | Male 1502, Female 549 |
| Treated as Out-Patients | 4504 | Male 3139, Female 1365 |
| Total during the year | 6555 | |

Consisting of the following cases :—

| | |
|---|---|
| Fractures | 952 |
| Wounds | 1361 |
| Contusions | 2681 |
| Sprains | 663 |
| Dislocations | 108 |
| Concussions | 32 |
| Burns and Scalds | 360 |
| Hernia | 46 |
| Bites of Dogs | 51 |
| Attempts at Suicide | 32 |
| Various | 269 |
| Total during the year 1845 | 6555 |

The fractures consisted of the following cases :—

| | |
|---|---|
| Skull | 17 |
| Face | 17 |
| Spine | 3 |
| Ribs | 165 |
| Sternum | 1 |
| Pelvis | 5 |
| Thigh | 64 |
| Patella | 7 |
| Leg | 142 |
| Foot | 22 |
| Shoulder-bone | 15 |
| Collar-bone | 105 |
| Arm | 53 |
| Fore-arm | 200 |
| Hand | 136 |
| Total | 952 |

*Report of the* 2051 *In-Patients.*

| | Discharged Cured. | Died. | Remain in Hospital. | Total. |
|---|---|---|---|---|
| Fractures | 381 | 32 | 38 | 451 |
| Wounds | 405 | 6 | 16 | 427 |
| Contusions | 593 | 8 | 20 | 621 |
| Sprains | 146 | | | 146 |
| Dislocations | 16 | 2 | 1 | 19 |
| Concussions | 26 | 2 | 3 | 31 |
| Burns and Scalds | 138 | 33 | 22 | 193 |
| Hernia | 38 | | 3 | 41 |
| Bites of Dogs | 7 | | | 7 |
| Attempts at Suicide | 28 | 3 | 1 | 32 |
| Various | 74 | 7 | 2 | 83 |
| Total | 1852 | 93 | 106 | 2051 |

*** It would be of great service to medical statistics if an annual return like this, were made by every London hospital.

CRETINISM IN WURTEMBERG.

The Government of Wurtemberg has lately directed its attention to a plan for diminishing cretinism in that country. From a recent return, it appears that there are 2901 cretins in the Kingdom of Wurtemberg alone, *i. e.* about one cretin for every 600 inhabitants ! Of this number, 769 are under 15 years of age, 1193 are between 15 and 30, and 939 above 30.—*Gaz. Med.* 2 Mai.

CLIMATE OF NEW SOUTH WALES.

Count de Strzlecki gives the following tables of temperature on a mean of three years ending with 1842, kept at three principal stations in New South Wales, and of five years at Launceston, Van Diemen's Land.*

The deductions from these registers were,

* Physical Description of New South Wales and Van Diemen's Land, by P. E. de Strzlecki.

1, that the temperature between 8 and 9 A.M. in summer, and between 9 and 10 A.M. in winter, represents the daily mean of each season; 2, that the minimum temperature of summer is equal to the mean temperature of winter; and 3d, that the maximum of winter corresponds to the mean of summer.

It will be seen by these tables that while the station of Launceston, in Van Diemen's Land, is, on the whole, colder than either of the three stations in New South Wales, the climate is much more equable, the fluctuation of temperature during the warmest season being little more than half; and during the coldest season, being about one-half of the fluctuation in the other three localities. It is this which, so far as temperature is concerned, rules the salubrity of a climate much more than the annual mean. In losing sight of annual means, and substituting the average annual fluctuation, or difference between the summer and winter temperatures, we have, according to Strzlecki, for Quebec, 59°·6; St. Petersburgh, 57°; New York, 55°; Buda, 44°; Philadelphia, 43°·3; Zurich and Copenhagen, 38°·9; Milan, 38°·4; Port Philip, in New South Wales, 37°·3, and for Launceston, in Van Diemen's Land, only 17°. The range between the mean winter and the mean summer temperature is only 16°·1, at Launceston, 13°; and we here subjoin some facts obtained from other sources, so that this range here observed by Strzlecki, may be compared with that which takes place in some other localities on the northern hemisphere.

| | Port Macquarie. | Port Jackson. | Port Philip. | Launceston, Van Diemen's Land. |
|---|---|---|---|---|
| SUMMER. | | | | |
| Maximum . . . | 88°·3 | 81°·9 | 90°·6 | 68°·4 |
| Minimum . . . | 61·8 | 59 | 48·8 | 49 |
| Fluctuation . . . | 26·5 | 29·9 | 41·8 | 19·4 |
| Summer mean . . | 75 | 73·9 | 69·4 | 66 |
| WINTER. | | | | |
| Maximum . . . | 75·3 | 73·3 | 69·8 | 56 |
| Minimum . . . | 46·8 | 45·3 | 36·9 | 41·4 |
| Fluctuation . . . | 28·5 | 28 | 32·9 | 14·6 |
| Winter mean . . | 61 | 59·3 | 53·3 | 53 |
| Annual mean . . | 68 | 66·6 | 61·3 | 59 |
| Warmest month . | November | November | November | February |
| Coldest month . . | August | July | July | June |

The mean annual temperature of Port Philip is the same as that of Nice; its mean winter temperature corresponds to the annual mean of Nantes and St. Malo, and its summer mean is above the annual mean of Algiers. The annual mean of Launceston, Van Diemen's Land, corresponds to that of Montpellier and Perpignan; in its winter mean it resembles Port Philip; the two places are isothermal. The mean annual range in the Faroe Islands is identical with that of Van Diemen's Land, but the *winter* of the latter corresponds to the *summer* of the former; and the annual mean of the islands is no less than 13° below that of Launceston. The above table furnishes a remarkable instance of how little climate-temperature is affected by latitude, compared with the position of places in respect to land or water. Yakutsk, the capital of Eastern Siberia, is on the same parallel of latitude as the Faroe Islands, while its mean annual temperature is 32° below that of the islands; the mean temperature of two of its winter months was observed to be 39° below Zero, and the annual range is no less than 102°! This difference must chiefly be ascribed to the fact, that Yakutsk is placed in the midst of a vast continent. It has a short and warm summer. As it will be seen by the Table, Yakutsk is *isotheral* with England.

| | Annual mean. | Winter mean. | Summer Heat. | Range or Fluctuation. |
|---|---|---|---|---|
| Port Philip, N. S. W. . . | 61°·3 | 53°·3 | 69°·4 | 16°·1 |
| Launceston, V. D. L. . . | 59 | 53 | 66 | 13 |
| England . . . . . | 50·4 | 37·8 | 62·6 | 24·8 |
| Faroe Islands . . . . . | 46 | 40 | 53 | 13 |
| Yakutsk, Siberia . . . . . | 14 | 39 | 63 | 102 |

# Medical Intelligence.

## UNIVERSITY COLLEGE, LONDON.

THE annual distribution of prizes in the Faculty of Medicine at University College took place, on Thursday, April 30th, in the theatre of the institution, Gower-street: the Right Hon. Sir Edward Ryan, late Chief Justice of Bengal, in the Chair. Dr. Williams, the Dean of the Faculty, read the report, which stated that the number of students attending the faculty during the past year was 292. Of that number 101 had entered during the present year, which was a great improvement on the preceding one. The principal features of the year were the establishment of a professorship and a class of practical chemistry, and in addition to the usual prizes, the Council had founded a prize of £40, to be awarded to the student who had in the three previous sessions distinguished himself by proficiency in general acquirements. Many of the pupils of the College had during the year obtained the very highest honours in the University of London, and, as a proof of the spread of civilization in a most important portion of the British dominions, four Hindoos, who had previously studied medicine in the College of Calcutta, under Dr. Goodeve, were now completing their education in that institution.

The prizes were then distributed.

It was announced by the chairman that upwards of £3000 had been raised out of the £4000 required to build the north wing of the hospital, which he had much pleasure in saying would be commenced during the ensuing month, and thus accommodate the poor with 50 more beds.

## TESTIMONIAL TO DR. BILLING.

A NUMBER of medical gentlemen who were colleagues and pupils of Dr. Billing, at the London Hospital, have presented to him, on the occasion of his retirement from that institution, a massive and highly ornamented piece of plate, with the following inscription:—

"To ARCHIBALD BILLING, M.D. A.M. F.R.S., Member of the Senate of the University of London, Fellow of the Royal College of Physicians, Honorary and Corresponding Member of the Medical Societies of Brussels, Dresden, Florence, and New York; formerly President of the Hunterian Society, Vice-President of the Royal Medical and Chirurgical Society, &c.

"Presented on the occasion of his retirement from the office of Physician to the London Hospital, after a quarter of a century of eminently valuable services; in testimony of their sense of the benefit conferred upon the profession by his establishment of Clinical Lectures in London, in the year 1822, by his attached pupils and professional friends connected with the institution."

## SYDENHAM SOCIETY.

THE following gentlemen were elected office-bearers at the Anniversary Meeting of the Society, on Friday last:—

PRESIDENT: J. A. Paris, M.D. F.R.S., President of the Royal College of Physicians.

VICE-PRESIDENTS: W. P. Allison, M.D. F.R.S.E., Professor of Medicine in the University of Edinburgh; Sir Benjamin C. Brodie, Bart. F.R.S., Sergeant Surgeon to the Queen; Sir William Burnett, M.D. F.R.S. K.C.H., Inspector-General of Fleets and Hospitals; W. F. Chambers, M.D. F.R.S. K.C.H., Physician to the Queen and to the Queen Dowager; Sir James Clark, Bart. M.D. F.R.S., Physician to the Queen and to the Prince Albert; Sir Philip Crampton, Bart. F.R.S., Surgeon-General to the Forces in Ireland; Sir Alexander Crichton, M.D.; W. G. Crosse, Esq. Norwich; Joshua Henry Davidson, M.D., First Physician to the Queen for Scotland; John Davy, M.D. F.R.S.; Chas. Hastings, M.D., Worcester; John Kidd, M.D. F.R.S., Regius Professor of Medicine in the University of Oxford; P. M. Latham, M.D.; Robert Liston, Esq.; Sir Henry Marsh, Bart.; Sir James M'Grigor, Bart. M.D. F.R.S.L. and Ed., Director-General of the Medical Department of the Army.

COUNCIL: Henry Ancell, Esq.; W. R. Basham, M.D.; W. D. Chowne, M.D.; John Clendinning, M.D. F.R.S.; Bransby Cooper, Esq.; James Copland, M.D. F.R.S.; John Erichsen, Esq.; John Forbes, M.D. F.R.S.; Arthur Farre, M.D. F.R.S.; Cæsar Hawkins, Esq.; Edward Headland, Esq.; John Hilton, Esq. F.R.S.; Thomas Hodgkin, M.D.; Samuel Lane, Esq.; James Luke, Esq.; Jonathan Pereira, M.D. F.R.S.; Benjamin Phillips, Esq. F.R.S.; G. O. Rees, M.D.; William Sharpey, M.D. F.R.S.; Samuel Solly, Esq. F.R.S.; George James Squibb, Esq.; Theoph. Thompson, M.D. F.R.S.; Erasmus Wilson, Esq. F.R.S.; James A. Wilson, M.D.

## UNIVERSITY OF EDINBURGH.

MR. JOHN GOODSIR has been elected Professor of Anatomy in the University of Edinburgh.

## LONDON OPHTHALMIC HOSPITAL.

MR. WILLIAM BOWMAN has been elected Assistant-Surgeon to this institution.

### DR. CLOQUET.

Dr. Ernest Cloquet, formerly professor in the hospitals of Paris, has just set out for Persia to take the place of M. Labat as physician to the Schah.

### PAYMENTS FOR MEDICAL SERVICES IN POOR-LAW UNIONS.

A return has just been made to the House of Commons, from which it appears that the following sums were paid in the respective years for medical relief, in England and Wales. There are at present 591 Unions:—

| | |
|---|---|
| 1843 . . . . . | £147,263 |
| 1844 . . . . . | 152,229 |
| 1845 . . . . . | 157,409 |

Giving an average expenditure of £266 for each union.

### RESULTS OF VACCINATION IN STOCKPORT.

In a return of the deaths in Stockport for the first quarter of the present year, the Registrar states, that—Of the 87 deaths registered this quarter, 45 have been attended by legally qualified medical attendants, 25 by unqualified ditto, and 10 had no medical attendance: 7 are inquests. It may not be out of place here to state, that in a district comprising a population of about 13,000, I have not registered a case of small-pox for a space of nearly two years; so gratifying a result I attribute to the introduction of the Vaccination Act, to the means taken by the guardians for giving publicity to the same, and to the attention of the medical vaccinators of the Union in fulfilling its benevolent provisions.

### WELL WATER POISONED BY ARSENIC.

It cannot be too extensively known, that the water of wells in the neighbourhood of chemical works is often impregnated with poison. Persons who unsuspectingly use this water may be in consequence attacked with alarming symptoms, and even die from the effects. We find from the return of the Registrar of West Derby that a fatal accident of this kind has lately occured in the rural part of this district: a whole family, with the exception of one member, has been entirely cut off, owing to their having drunk water impregnated with arsenic, which was drawn from a well contiguous to certain chemical works attached to the premises where the family resided.

### CASE OF HYDROPHOBIA.

In the table of deaths from Huddersfield, we find the following short account of a case of hydrophobia. Although concisely given it embraces as much as many lengthy reports. The subject of this case was a male, of the age of 37, of somewhat dissipated habits; he had been bitten in the thumb by a dog (which on inquiry was found to have died the day after,) five weeks before any symptoms of the disease were developed; he first complained of severe frontal headache: the characteristic symptoms were well marked five days before his death, which took place on the 19th January: he was furiously delirious for sixteen hours before he died. The post-mortem examination showed slight hyperæmia of the spinal cord and its membranes, and the red spots on the medullary substance of the brain were more numerous and larger than usual.

### NEW INSTRUMENT FOR LITHOTRITY.

Dr. Arthault has invented a new instrument for crushing calculi in the bladder. An experiment was lately made on a subject at the Hospital Beaujon in the presence of several surgeons. A calculus of the size of a pigeon's egg was introduced into the bladder, and a suture applied so as to close the cavity. The calculus was reduced to an impalpable powder in *three minutes*. Dr. Arthault's instrument thus not merely breaks or crushes, but completely pulverizes the calculus.—*Gaz. Méd. Chir.* 2 *Mai.*

### THE PLICA POLONICA OF VEGETABLE ORIGIN.

The Plica Polonica appears to belong to that class of diseases which are owing to the spontaneous growth of a vegetable substance. Professor Walther of Kiew submitted to a microscopical examination the substance which united the hairs, and he found it to consist of a number of minute rounded or oval corpuscles, having in the centre one or two nuclei, which appeared to be the germs of new corpuscles. These researches tend to corroborate those of Gunsbourg.—*Ibid.*

### STATE OF THE URINE IN SMALL-POX.

In the epidemic small-pox, which prevailed at Heidelberg in 1843-4, it was observed by Dr Höfle, with respect to the urine of the patients,—1. That its quantity and colour always bore a relation to the quantity and colour of the food and drink. 2. That it had not the variolous odour of the cutaneous transpiration: in two patients it had the odour of sulphuretted hydrogen, and this gas was actually detected in it. 3. The fresh urine was always acid: it was only once observed to be alkaline in a case of putrid variola. 4. The cloudiness and deposits were due to the presence of uric acid or urate of ammonia with epithelium scales. Pus was not found in these deposits: nor any other abnormal substance. 5. Albumen was present in eight cases at different periods of the disease.—*Gaz. Méd.* Avril 25.

### OBITUARY.

Died lately, at Vienna, the Baron von Dürkheim, an eminent physician, and President of the Board of Health for the Austrian Empire.

## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

FRIDAY, *May* 1.—H. Gardner.—S. Lowe.—H. H. Harvey.—W. P. Ward.—A. Jowett.—E. G. Ellis.—H. Pritchard.—J. T. Arlidge.—T. G. Wrench.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *April* 30.—Henry Thos. Hartnoll, Exeter.—James Yates, Eccleshall.—Joseph Hesslegrave, Marsden.—Francis Robert Hoghton.—James Parett, High Easter, Essex.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, April* 25.

| Births. | Deaths. | *Aver. of 5 yrs.* |
|---|---|---|
| Males.... 719 | Males.... 447 | Males.... 493 |
| Females . 720 | Females . 409 | Females . 475 |
| 1439 | 856 | 968 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 123 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 182 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .....(Pop. 374,759) | 154 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .....Pop. 393,247) | 177 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .....(Pop. 479,469) | 220 |
| Total ..... | 856 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Springs; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 856 | 892 | 968 |
| SPECIFIED CAUSES ..... | 852 | 886 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 149 | 162 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 83 | 98 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 140 | 155 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 280 | 271 | 294 |
| 5. Heart and Blood-vessels ..... | 31 | 26 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 67 | 65 | 72 |
| 7. Diseases of the Kidneys, &c... | 15 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 15 | 9 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 6 | 6 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 0 | 1 | 2 |
| 11. Old Age..... | 47 | 60 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 19 | 25 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 9 | Convulsions .... | 42 |
| Measles ..... | 19 | | |
| Scarlatina ..... | 15 | Bronchitis ..... | 44 |
| Hooping-cough.. | 48 | Pneumonia..... | 53 |
| Typhus ..... | 23 | Phthisis .....152 | |
| | | Dis. of Lungs, &c. | 14 |
| Dropsy..... | 7 | Teething ..... | 10 |
| Sudden deaths .. | 5 | Dis. Stomach, &c. | 3 |
| | | Dis. of Liver, &c. | 11 |
| Hydrocephalus .. | 34 | | |
| Apoplexy..... | 17 | Childbirth ..... | 12 |
| Paralysis ..... | 20 | Dis. of Uterus, &c. | 2 |

REMARKS.—The total number of deaths was 36 below the vernal and 112 below the annual average. The deaths from Zymotic diseases, with the exception of hooping-cough, were also below the averages. The mortality from this disease has abated. In the North districts, the mortality was above the averages. In the others, it was below.

## METEOROLOGICAL SUMMARY.

Mean Height of Barometer .....29·79
„ „ Thermometer[a].....45·5
Self-registering do.[b] ..... max. 85·7 min. 21·
„ in the Thames water. — 53·2 — 49·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 1·2: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was 4·4° below that of the mean temperature of the month (49·9°). The extreme hebdomadal range in the self-registering thermometer was 64·7°.

## BOOKS RECEIVED FOR REVIEW.

Dr. Thurnam's Statistics of Insanity.—Dr. Carpenter's Manual of Physiology.—Dr. Clutterbuck's Essays on Inflammation, No. 1.—The M dical Police of the United Kingdom.—Giessen Outlines of Qualitative Analysis, by Dr. Will.—Bower's Memoranda for the College of Surgeons.—Leeson on the Heart and Lungs.—Phillips on Scrofula and its Treatment.—Dr. A. Watson on Catarrh.—Dr. G. F. Bone on Yellow Fever.—The Sick Chamber.—Health and Sickness of Town Populations.—Chelius's System of Surgery, by South, Part 11.—Dr. G. Gregory's Elements of the Theory and Practice of Medicine, 6th Edition.—Practical Observations on Inspissated Ox-Gall, by Dr. Clay.—Burial Ground Incendiarism, by G. A. Walker.—Dr. W. Fergusson's Notes and Recollections of a Professional Life.

## NOTICES TO CORRESPONDENTS.

We regret that we cannot insert the names of those gentlemen to whom prizes have been awarded. If we published a list from one School, we should in fairness be compelled to give insertion to the long lists of all the Hospital Medical Schools.

A Subscriber.—A Continental diploma conveys no legal right to practice in England.

Mr. R. Moyle's Case will be inserted.

The Report from the Western Medical and Surgical Society reached us too late for the present number.

A. B.—The Table of Urinary Deposits will have early insertion.

The Report of the South London Society is unavoidably postponed until our next.

*Received.*—Mr. Brown.—Mr. Acton.—Dr. C. H. Jones.—Dr. Wardell.—Mr. Thomas Bourne.

ON A

## FOLLICULAR DISEASE OF THE VULVA.

By Henry Oldham.

Physician-Accoucheur, and Lecturer on Midwifery at Guy's Hospital.

In the concluding part of Dr. Ashwell's book on the Diseases of Women, I gave a short notice of a disease of the external genital organs, which I denominated a follicular inflammation of the vulva; because it appeared to me to consist of an affection of the follicles which are freely scattered over the mucous membrane of the vulva. Since writing that notice I have had the opportunity of seeing several other cases, and have learned something more of its character.

Like most of the affections of the external organs it is a very painful disease, and it is very difficult of cure. In several of the cases which I have seen it has been taken for, and treated as, leucorrhœa, which affords another example of this very frequent *symptom* of disease of the sexual organs, being adopted as the disease itself.

It is not an affection peculiar to married women. The first cases which came under my notice occurred in married women, but I have since seen two instances in unmarried persons, one of which will be detailed. Neither is it confined to one period of life; out of 15 cases which I have attended, one occurred at 18 years of age, another at 47, and the rest are varying between the ages of 25 and 45. Five cases have dated the commencement of this affection from the cessation of the menses, one from the time of marriage; but the majority could not satisfactorily assign any occasion for its coming on.

There is a form of follicular inflammation which, generally speaking, is not lasting, which causes some smarting and itching about the vulva, and in which the follicles or the inner surface of the nymphæ and about the vestibule are raised into little seed-like spots. I have noticed it in some cases as preceding or immediately following the menstrual period, and sometimes as directly connected with disease of the cervix, or some remoter part of the sexual organs.

But the disease I am now describing is very generally limited to two symmetrical strips of mucous membrane, at the posterior half of the entrance of the vagina within the nymphæ, and a detached portion just beneath the urethra. There has been quite sufficient uniformity in its situation at these parts to warrant me in fixing on them as, at least, the most common seat of the affection. If an examination is made at an early period of the disease, a number of small, circular, highly injected points are seen, and the mucous membrane looks much inflamed. At first these points are solitary, and slightly raised on the surface, and a minute speck of ulceration is frequently seen in their centre. These, I believe, correspond to the follicular crypts of the mucous membrane, and the ulcerated portion to their central pore. After a time the points lose the appearance of being isolated; they coalesce, and a band of vividly injected membrane is formed.

The sphincter vaginæ is always contracted, and the mucous membrane is much punctured, and in several cases I have seen the disease extend to the lowest folds of the vagina; the tops of which become very red, and bleed on being touched or separated. I have only seen one case in which the whole tract of the mucous membrane of the vagina was similarly affected. When the disease has been of long standing, a change may be observed in the colour of the mucous membrane of the vulva, and the lowest part of the vagina. It assumes a white appearance, as though some white paint had been diffused over its surface. This occurs particularly in women who have ceased to menstruate, and is not confined to the present disease, as I have seen it well-marked in protracted cases of prurigo of the vulva. The disease in question is most intractable, it has all the inveteracy of some of the more chronic skin diseases, and it will torment a person for years, sometimes getting better, and again returning as bad as before.

It is difficult to assign the causes which produce this disease. It certainly is not connected with syphilis, nor has there been any habitual want of cleanliness to account for it. It followed marriage only in one case, and I have not seen it associated with intestinal worms. From the first I suspected that some other part of the sexual organs might be primarily affected, and Case No. II. is interesting as shewing a diseased state of the ovaries. In general, however, the uterus seemed perfectly healthy—performing its functions well, and being quite free from pain when moved. I am disposed to think it a primary disease of the follicles of a part of the genital mucous membrane, just as distinct as acne or any other disease may be of the skin, and not as secondary to a more concealed and distant disorder.

The earliest symptoms of this follicular disease are leucorrhœa, with more or less irritation of the external genitals. These are particularly noticed after walking or standing. The leucorrhœal discharge then greatly increases, and from being thin and

whitish it becomes yellow and thicker. It never assumes the viscid gluey character which marks the affections of the cervix of the womb, but it soils the linen with a yellowish tinge, sometimes having a darker colour from being mixed with a small quantity of blood, and occasionally smelling badly. That part of the mucous membrane which is affected becomes the seat of a most painful and almost incessant smarting, with every now and then a severe attack of pruritus. This itching, however, is not a uniform symptom, as some of the worst cases are unattended by it, and the sore and sensitive state of the vulva forbids any attempt at rubbing it. The patient sits down with pain, and adjusts her seat with care, first resting on one ischium, and then gradually sinking down on the chair. Sexual intercourse is painful from the first, but when the disease is established it is altogether abandoned, from the intense suffering it causes. Pain in passing water is a very rare symptom. Sometimes the little patch of inflamed membrane beneath the urethra may be touched by the urine as it flows, which occasions much pain at the time, but generally it escapes the stream of urine. The local symptoms are often aggravated just before a menstrual period, and particularly by any mental depression, or unusual fatigue, in warm and wet weather, and by a constipated state of the bowels. In this as in most of the affections of the external organs of the female, much unhappiness is apt to spring up between husband and wife, which embitters the life of the woman, and greatly angments her sufferings. To the foregoing symptoms are now added habitual lumbar and sacral pains, heavy pains in the thighs and inguinal canals, with sometimes forcing pains when walking. The general health becomes impaired; the patient is timid, foreboding, and fretful: the digestive organs suffer; the appetite fails; the tongue is pale, flabby, and tremulous, and she is constantly nervous, hysterical, and weak. When the parts are separated in making an examination there is always much pain, the inflamed follicles, when even gently put on the stretch, sometimes bleeding a little. The orifice of the vagina is always closely contracted, and so shuts up the canal that the leucorrhœal discharge accumulates within it, and when it does escape, flows profusely. The vagina and uterus are neither tender or hot, and when once the finger passes the closed sphincter, there is but little pain experienced in exploring these parts. A quantity of discharge usually follows when the finger is withdrawn. These are the prominent features of this disorder, and there is but little difficulty in recognising it if the parts are examined. The great practical error is to look upon the disease as an acute leucorrhœa, and the local pain, &c. as caused by the acrimony of the discharge. This disease differs from the diffused inflammation of the vulva in adults, by its attacking only a limited portion of the mucous membrane of the vulva, in not being attended with general swelling, and in its obvious follicular origin. It differs from eczema, or herpes, or the aphthous state of the vulva, not only on these points, but in the absence of vesicles; and it differs from them all in its intractability.

I have every reason to believe that the cure of this affection will be found very troublesome, and second only to the prurigo which attacks women in the late periods of life. Appropriate remedies will succeed in greatly mitigating it, and allow of comparative comfort, but the mucous membrane does not clear, and the painful symptoms are re-established by any local irritation or derangement of the general health. I have tried perseveringly many remedies, and have found most of them of only very temporary service. At first I quite hoped to get rid of the disorder by the use of nitrate of silver, with attention to the general health, and an absence of sexual excitement. But after repeated trials of it, both in solution and in the stick, I have almost abandoned it. It causes extreme agony for some time, perhaps requiring the use of opium to allay it, and even the best effect of it is to relieve for a short space the tenderness of the parts. I have attempted to destroy the inflamed follicles by the free and repeated application of nitric acid with nitrate of silver, but without effect; after a monthly period they have again returned. The class of local remedies which does the most good is undoubtedly the sedative, and the most generally successful of these is hydrocyanic acid. It may be used either as a wash or as an ointment, but the latter, I think, is preferable. I have usually ordered two drachms of hydrocyanic acid with a scruple of the diacetate of lead, to be made into an ointment with two ounces of cocoa-nut oil. The parts should be first bathed with some simple infusion of roses, and the ointment applied two or three times in the day on lint. It rarely fails to give much relief. Amongst the preparations of opium, a lotion of lime water with opium is perhaps the best. The poppy hip-bath has sometimes been very grateful to patients, and quieted irritation. A very useful application is to saturate some bread with a decoction of conium leaves, and to add two drachms of the Liq. Plumb. diacet. to a pint of the decoction. A poultice thus made ought to be kept constantly applied to the vulva, and it will frequently assuage the smarting. Mercurial washes, although used with opium, have not in my hands been

of much service. I have also tried solutions of sulphate of copper, zinc, and alum, and subborate of soda; but whilst they have varied the remedies, they have been but sparingly successful. The latter has been much spoken of as a local application in diseases of the external organs, but I have generally been disappointed in it. Vapour baths may be prescribed with much advantage when the irritation is severe. I have tried both the simple vapour bath, and the sulphur baths, and with decided benefit. Creosote and the tar-water bath have failed with me in materially relieving this disorder.

But while it is necessary to multiply our resources to palliate the distressing local symptoms, it is of the greatest importance to attend carefully to the general health. Any decline in health always affects the sufferings of the patient. The diet should be nutritious but unstimulating. Porter or wine should be avoided; and milk either alone or with lime-water may be taken with advantage. The patient should be desired to keep at rest as much as possible, as walking exercise always irritates the parts; and indeed it is often difficult even to mitigate the disease, if the person continues her ordinary duties, moving and walking about as usual. Sexual intercourse must be forbidden, although any injunction on this point is almost superfluous, as it rarely can be endured.

Change of air will do much to maintain the general health and diminish the constitutional irritability which appears in the course of this complaint. Vegetable tonics, as cascarilla, columba, sarsaparilla, &c., are of much use, with the tinctures of hop or coniun. I have repeatedly prescribed, with much benefit, the Mist. Olibani of the Guy's Pharmacopœia, made with the Dec. Cinchonæ. The bowels ought always to be attended to, and there is no better plan than to combine a small dose of sulphate of magnesia with infusion of cascarilla or camomile. Saline laxatives are the most serviceable.

The plan of treatment which is here indicated will, I think, always afford great relief. The discharge diminishes, the pain and smarting of the vulva is appeased, and the general health improves; but it does not do more than this. The diseased follicles are still there, and any neglect of the prescribed precautions, or the coming on of any exciting cause, soon excites inflammation, with the attendant distressing symptoms. It only mitigates, but does not cure. When the health is recruited, however, by these means, I have in several instances, as in case No. 1, prescribed a mild mercurial course. This has usually consisted of the Liq. Hydrarg, Bichlorid. ℥j. ex. Dec. Sarsæ. C. c. Ext. Sarsæ.; and while on the one hand I have never seen any injurious result from this mode of administering mercury, I have reason to be satisfied with its influence in checking, and sometimes eradicating, this complaint. It has, however, no specific power in curing the disease, for in three cases where I have tried it, and at first thought it efficacious, the disease has reappeared.

There is a resemblance between the follicular disease of the valve and the small vascular growths at the mouth of the urethra, in their tendency to return when apparently destroyed. In the first disease, unless the mucous membrane from whence they spring is cut off with the growth, it generally sprouts forth again; and in the more obstinate cases of the follicular disease it might perhaps be a good expedient to dissect off the affected portion of membrane. The cicatrix which it would leave in women who have not passed the child-bearing season, would be an objection to it; but in those cases which occur after the catamenial decline, it might, I think, be advantageously adopted.

The following illustrative cases have been selected out of the number which have occurred to me.

Case I.—*Follicular disease of the vulva in a married woman—cured by the internal administration of mercury.*

Mrs. B., æt. 28, consulted me at the wish of her medical attendant for a supposed inveterate leucorrhœa, which had resisted various attempts at cure for eighteen months. She is of dark complexion, and has been married nine years, but without pregnancy. Her health during the first years of marriage was very good, but for the last year and a half she has suffered severe pain at the vulva, with constant leucorrhœa.

When I first saw her, in September 1843, her health was much impaired; she was timid, hysterical, and unable to bear the least fatigue. Her appetite was capricious, and the tongue flabby, indented at the edges, and tremulous. She had lost flesh, and was in a very desponding state of mind. She complained of severe smarting and shooting pains about the vulva, with occasional pruritus, which were much increased after walking or standing for a long time. She could not sit down evenly, but was obliged to rest on one ischiun, and adjust her seat cautiously, for fear of bringing on severe pain. She had dreaded sexual intercourse ever since her illness, and now could not permit it. On examination I found a strip of the mucous membrane around the orifice of the vagina, within the nymphæ, of a deep red colour. There were several slightly raised highly vascular points with minute central specs of ulceration on the top of them. Some of these were isolated, whilst others had coalesced, and

formed the strip of injected membrane at the entrance of the vagina. The most careful attempt at separating the parts caused much pain, and some two or three of the vascular points bled slightly. The sphincter vaginæ was closely contracted, resisting the entrance of the finger, but when once this part was passed, the vagina and the uterus were free from pain, and the latter was of its normal size and well placed. A quantity of yellow discharge followed the finger when it was withdrawn from the vagina. The parts were neither swollen nor unduly hot. She menstruated regularly, and her sufferings were not increased at the time.

The treatment of this case lasted twelve months, during which the patient visited me from time to time. Having allayed the irritation of the parts by keeping her in bed, and using hot narcotic fomentations with saline laxatives, I touched the surface with nitrate of silver, which caused her severe pain, requiring an opiate at night to secure her any rest. At first I thought I had gained on the disease by the use of the caustic, and I repeated its application occasionally for some weeks, but I found that after a menstrual period the disease returned as bad as ever. Strong nitric acid seemed to destroy the diseased structure by the slough which followed its use, but when the sore healed the disease again showed itself. Lotions of sulphate of copper and zinc, oxide of zinc with opium, creasote and sulphur ointment, mercurial washes, and leeches to the vulva, were severally had recourse to, but with only a passing benefit. Sarsaparilla, with iodide of potassium, and other vegetable tonics and sedatives, were prescribed to relieve her general weakness. There was not the slightest suspicion in this case of any venereal taint, but being baffled in the treatment of the complaint, I determined to place her under a mild course of mercury, which consisted of ʒj. of the liq. hyd. bichlor. ex dec. sars. c. ext. bis die, and hydrocyanic acid ointment was applied to the vulva night and morning. In three weeks time the gums were slightly touched, and she was much improved; the pain was relieved, the discharge abated, and the inflamed follicles were less numerous, and far less sensitive. She went into the country for a month, and reduced the mercury to one dose every other day, and on her return she appeared all but well; the vulva was still sensitive when touched, but the disease had disappeared. She had borne sexual intercourse very well, and her general health was greatly improved. A discharge of a bloody mucus took place from the left nipple, which lasted for a day or two, and then left her, coming on again in eight or ten days time. I still see this patient occasionally, and she remains free from the disease, but the discharge from the nipple still continues. She has not been pregnant.

Case II.—*Follicular disease of vulva—phthisis—death—commencing abscess in both ovaries.*

On the 10th of September, 1844, I saw Mrs. W., residing in Bishopsgate Street, in consultation with Mr. Daldy. She had for some time been in bad health, and had latterly been in a very desponding state of mind on account of her husband's abandoned habits. She was 43 years of age, and her youngest child was ten years old. She had lately complained of a most intolerable pain and smarting at the end of the vagina, with a very copious yellow discharge. On examination, the margin of the mucous membrane surrounding the opening of the vagina was much inflamed. The follicles in this part appeared slightly raised and very red, with a minute central speck of ulceration on them. The parts were exquisitely tender when touched, and bled on being separated. The vagina was contracted at its orifice, but the canal itself was free from tenderness, and the uterus was well placed, quite moveable, and not painful. She was ordered to use a lotion, composed of Hydrocyanic Acid, ʒij.; Vin. Opii, ʒij.; Aq. Destillat. ʒviij.; ft. Lotio; and to take Dec. Sarsæ. c. Ext. et Liq. Potass. ɱx. t. d. In two months from this time she died with marked signs of phthisis.

Mr. Daldy and myself examined the body. The lungs had tubercles scattered through them, with traces of recent pneumonia. The gall-bladder contained six or eight gall-stones. The uterus was healthy, perhaps rather larger than natural; its lining membrane clear, and the fallopian tubes quite free. The ovaries were very small and atrophied; each of them contained a cyst, lined with a thick corrugated opaque membrane, holding pus, which spurted out when they were bisected. There was no scrofulous deposit in any other organ than the lungs.

Case III.—*Follicular disease of the vulva—occurring in an unmarried person—caustic applications—relieved by local sedatives, laxatives, &c.*

Miss M——, æt. 18, consulted me Aug. 4th, 1845, for leucorrhœa, which was attended with severe pain at the external genital organs. She is well grown, rather stout, and enjoyed good health until eight months since. She then had a white discharge, which soon became yellow, and was so profuse that when she moved about it ran from her, and she was obliged constantly to wear a napkin. Her medical attendant ordered her to use a lotion, composed of sulphate of alum and sulphate of zinc, which increased her complaint.

When I saw her she was weak, thin, and looked careworn. She had but little appetite, and suffered from headache, and particularly from backache. There was a constant yellow discharge, and great soreness with occasional itching at the vulva. She had sometimes been constrained to rub the parts in spite of the pain it gave her. The discharge for five weeks past had become fœtid. The catamenia (which first appeared at thirteen) were regular, and the pain was not worse during the flow. No pain in passing water. She was ordered to keep at rest, and to use a hot hip-bath every night.

Pilul. Hydrarg. gr. v.; Ext. Hyoscyam. gr. iij. horâ somni sumend. Haustus Sennæ cras mane.

Aug. 7th.—She has suffered less, but is not materially relieved. An examination of the parts was at once permitted. The external labia were rather swollen; on separating them, and the nymphæ, a patch of highly injected mucous membrane skirting the posterior margin of the entrance to the vagina was seen. On examining carefully, after cleaning the surface with lint, it was seen to consist of a number of points, which were in many places solitary, but in others had been fused together, forming a strip of very vascular membrane. The sphincter vaginæ was closely contracted, and the tops of the folded membrane were vividly red. There was no other part affected besides the parts mentioned; the urethra, vestibule, &c. were free. There was no hymen, and the vagina itself and the uterus were unaffected. The discharge was a dirty yellow, and had a pungent fœtid odour. By the microscope I found it to consist of mucus and pus globules, with large quantities of epithelial scales.

Four leeches were ordered to be applied to the upper part of each thigh, and the vulva to be freely fomented with the Dec. Papav.

Infus. Rosæ c. Magnes. Sulph. ʒj. bis die.

Aug. 30th.—Feels better. All pruritus gone, but the same smarting and pain on moving.

Unguentum c. Acid. Hydrocyan.

I found that although much relief was procured by these means, the disease remained stationary, and as it was so distinctly limited to a strip of membrane, I determined to destroy this portion with caustic. A solution of nitrate of silver in strong nitric acid was made, and I applied this carefully to the part with a pointed glass rod. She suffered much pain for two hours. It was again applied in two days, and a third time after a similar interval. Care was taken to prevent the caustic running over the sound parts. Lint dipped in warm water was applied so as to separate the surfaces and form a dressing to the parts, which soon healed. She appeared at first to have gained by this measure, and for three weeks was free from the smarting and soreness, and the yellow discharge almost left her. But after the next monthly period these symptoms again came on. Since this time she has principally used a poultice saturated with a decoction of conium as a local sedative, with the occasional application of sulphate of copper. She also takes Inf. Cascarill. c. Magnes. Sulph. ʒj. et Tinct. Lupul. ʒss. b. d.

Her general health is quite restored. She passes from three to six weeks without any material suffering from the vulva, but if she is over fatigued, or the bowels permitted to become costive, then it is reproduced. The disease is effectively checked, and she is able to follow her ordinary pursuits without inconvenience, but it is not cured.

Case IV.—*Follicular inflammation of the vulva and vagina, coming on at the catamenial decline.—Repeated attacks—relieved by hydrocyanic acid ointment and other local sedatives.*

Mrs. B——, æt. 47, a tall muscular woman, has been twice married. By her first husband she had three living children, and she miscarried four times. She has not been pregnant by her present husband. She enjoyed good health until four years since, when she began to suffer from pain in passing water, with a feeling of heat and swelling in the hypogastric region. Two years ago the catamenia ceased, and she then suffered more intensely from constant smarting and itching at the vulva, with severe pain during sexual intercourse, and leucorrhœa. This has lasted more or less ever since, with only occasional short intervals of relief. Any anxiety or overwork reproduces or greatly aggravates the local pain. She has received advice from several medical men, and has been perseveringly treated. She has had leeches to the vulva, and been cupped on the loins. She has taken mercury to slight salivation, and has had sarsaparilla, iodine, &c.; but she has not received any material benefit.

I first saw her October 2d, 1844, when she complained of frequent desire to pass water, with tenderness over the pubic region. There was severe smarting, with occasional pruritus of the vulva, which was increased by standing for any time, or when warm in bed. There is a copious yellow discharge; her general health is disordered; she is desponding, and suffers from dyspepsia; tongue furred; bowels not open without medicine.

On examination, there is seen, on separat-

ing the nymphæ, a vividly red patch of membrane beneath the urethra, just escaping the stream of urine. Two symmetrical lines of inflamed mucous membrane, of a deep red, almost purplish colour, about four lines in length and one in breadth, are seen skirting the posterior margin of the ostium vaginæ. Here and there are some isolated injected points close to these lines. The parts are exquisitely tender, and the orifice of the vagina much contracted by the sphincter. The vagina is rather hot to the touch, and on passing a small-sized speculum, which caused much pain, it was found dotted over with red points. Towards its outer end the mucous membrane had assumed a white aspect, in which the red specks were seen, like the papillæ on the surface of a white tongue. The margin of the os uteri was injected, but not ulcerated.

Nitrate of silver was smeared over the cervix. She was ordered to take—

Mist. Oliban. ex Dec. Cincon. et Tinct. Lupul. ʒss. t. d. Pulv. Rhæi Salin. ʒss. (Ph. Guy), p. r. n.

℞ Acid. Hydrocyan. ʒiij. ; Plumb. diacet. ℈j. ; Ol. Cocas. Com. ʒij. ft. unguentum, part. affect. bis terve die applicand.

She found great relief from these medicines; but she was attacked with diarrhœa, and again the pain at the vulva with the leucorrhœa returned as bad as ever.

This patient has been in the habit of coming to me occasionally up to the present time. I have varied the medicines to meet any peculiar symptoms; but I have kept to sedative applications, as the Liq. Calcis c. Opio. the Dec. Papav. c. Liq. Plumb. Diacet. Fotus Conii, &c. to relieve the smarting and irritation of the vulva. Of these, however, the hydrocyanic acid ointment has been by far the most effective, and she now always has recourse to it when tormented with pain. She is able to follow her occupation with but little inconvenience, and her health is generally good; she has not had connection with her husband for the last year and a half. Every now and then, when she has had any cause for anxiety, a severe attack comes on. I transcribe the following report for the 10th September, 1845.

"Has passed three months almost free from suffering, with scarcely any discharge, but since last week she has again become worse, which she ascribes to incessant distress of mind from her husband having abandoned her. She complains of a burning soreness at the vulva, with much lumbar pain; discharge copious and puriform; she is trembling, weak and dispirited, and feels altogether ill; tongue dry and furred.

"A patch of deep-red membrane on the right side of the back part of the vaginal entrance, and a less one on the left. The tops of the adjacent folds of the vagina red; and a white look about the rest; vagina tettered and painful."

She was again relieved when her mind became more tranquil; and she is now taking Infus. Anthem. c. Magnes. Sulph. ʒj. omni mane, from which she has derived much benefit.

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QUACKERY IN THE SIXTEENTH CENTURY.

Gale relates some of the enormities committed by the empirics who infested this country during the reign of Henry VIII., in the following striking terms:—In the year 1562, I did see in the two hospitals of London, called St. Thomas's Hospital, and St. Bartholomew's Hospital, to the number of CCC. and odd poor people that were diseased of sore legs, sore arms, feet, and hands; with other parts of the body so sore infected that a hundred and twenty of them could never be removed without the loss of a leg or an arm, a foot or a hand, fingers or toes, or else their limbs crooked; so that they were either maimed or else undone for ever. All these were brought to this mischief by witches, by women, by counterfeit javils (wandering or dirty fellows), "that take upon them to use the art, not only robbing them of their money, but of their limbs and perpetual health. This fault and crime of undoing of these people were laid unto the chirurgeons. I will not say by part of those that were at that time masters of the same hospitals; but it was said that carpenters, women, weavers, cutlers, and tinkers, did cure more people than such chirurgeons. But what manner of cures they did, I have told you before; such cures as all the world may wonder at—yea, I say such cures as maketh the devil in hell to dance for joy, to see the poor creatures so miserably tormented." . . . . Of this sort (of pretenders) I think London to be as well stored as the country; I think there be not as few in London as three score women that occupieth the arts of physics and chirurgery. These women, some of them, be called wise women, or holy and good women; some be called witches, and useth to call upon certain spirits. . . . . In another part he says, "I will not speak of a multitude of strangers, as pouch-makers and pedlars, with glass-makers and cobblers, which run out of their own countries, and here become noble physicians and chirurgeons, such as now is most in estimation, and ruleth all the roast in our country."

This state of affairs appears to have been mainly attributable to an act (14 & 15 Hen. Oct. cap. viii.) passed some years previously, rendering it lawful for every person, whether licensed or otherwise, to undertake the cure of diseases!

ANALYSIS OF THE

## LIQUID OF SPINA BIFIDA.

By John Percy, M.D. Ed.
Birmingham.

I am indebted to Mr. Clarkson, surgeon, of this town, for the liquid employed in the following analysis (Jan. 1844). It was obtained from a female infant, which lived three days. The whole posterior part of the head was occupied by a large tumor, extending down the spine, and depending on each side to the shoulder. On the day after the death of the child the tumor was punctured, and the liquor was received in a basin. On examination, the tumor was found to be lined by serous membrane, which above was traced continuous with the arachnoid of the base, and below with that of the spinal canal. The brain was remarkably small. The liquid measured six ounces; but a small quantity escaped on making the puncture. Colour, reddish brown; turbid; on standing, a small quantity of red particles subsided, and left the supernatant liquid transparent and of a pale yellow colour, like serum. Hence, a little blood had probably been accidentally mixed with the liquid; but the quantity could only have been extremely small, and cannot sensibly affect the correctness of the analysis. Odour precisely similar to that of fresh brain; specific gravity, 1010°; temperature, 59° Fah: restored slowly, yet completely, the colour of reddened litmus paper.

*a. Solid residue.*—500 grains, after evaporation over a steam-bath, and subsequent drying during many hours in a hot air apparatus, at 212° Fah. furnished 8·75 grains.

*b. Albumen.*—The residue *(a)* was washed on a filter with boiling water until nitrate of silver ceased to affect the wash-water, and then dried for several hours, at 212° Fah. The diminution by drying for two hours between the second and last weighings amounted only to ·01 grain. The dry residue weighed 2·25 grains, and by incineration gave 0·13 of ash; so that the albumen must be estimated at 2·25—0·13=2·12 grains.

*c. Fixed saline matter.*—500 grains were evaporated and incinerated in a platinum capsule. The residue was treated with hot water until nitrate of silver ceased to affect the wash-water. Obtained of *soluble* saline matter, 4·29; of *insoluble*, 0 12.

*Soluble* saline matter:—

1. Immediately restored the colour of reddened litmus paper.

2. By addition of nitrate of silver and nitric acid, an abundant curdy white precipitate (chlorine).

3. To solution (2.) filtered, cautiously added ammonia; no precipitate (no phosphoric acid).

4. Copious yellow precipitate with chloride of platinum (potass).

5. The saline matter before the blowpipe gave an intense yellow colour (soda).

6. Baryta-water produced a white precipitate insoluble in nitric acid (sulphuric acid).

7. Acetic acid added to some of the saline matter occasioned effervescence (carbonic acid).

*Insoluble* saline matter:—

1. Perfectly dissolved in dilute nitric acid.

2. To solution added nitrate of silver, and neutralised with ammonia: copious lemon-yellow precipitate (phosphoric acid).

3. To some of solution first added put ammonia in excess, then acetic acid in excess, afterwards oxalate of ammonia; white precipitate (lime).

4. Filtered solution (3), and added ammonia in excess; after standing some time no precipitate (no magnesia).

Analysis taken for 1000 grains:—

| | |
|---|---|
| Solid residue . . . . . | 17·50 |
| Water . . . . . | 982·50 |
| Albumen . . . . . | 4·24 |
| Indeterminate organic matter . | 4·44 |
| Chlorine, carbonic and sulphuric acids, potass, soda . . . | 8·58 |
| Phosphate of lime . . . | 0·24 |
| | 1000·00 |

I was favoured with another specimen of the liquid of spina bifida by my respected friend, Mr. Langston Parker, of this town, (April 1843). It was as pale and liquid as water, and contained some flocculent matter suspended; odour very slight; specific gravity between 1005° and 1010°*; very faintly

* I had only a very small quantity of liquid, so that I used the glanbead for taking the specific gravity.

alkaline to test paper; did not filter clean; turbidity *not* increased by boiling, but increased by nitric acid.

*a. Solid residue.* — 100 grains by evaporation over the steam b th and subsequent drying gave of residue 0·91, which speedily became moist by exposure to the atmosphere.

*b. Fixed saline matter.* — 100 grains evaporated and incinerated in a platinum capsule gave 0·76 of saline matter, the aqueous solution of which instantly restored the colour of reddened litmus paper, and gave with nitrate of silver a copious curdy white precipitate insoluble in nitric acid.

Analysis tabulated for 1000 grains :—

| | |
|---|---|
| Solid residue . . . | 9·1 |
| Water . . . . | 990·9 |
| Organic matter . . . | 1·5 |
| Fixed saline matter . . | 7·6 |
| | 1000·0 |

In the first volume of the Chemical Gazette, p. 10, is a notice of the examination of the liquid of spina bifida, by Landerer. He found the liquid, which was extracted by puncturing, to be clear, inodorous, weakly alkaline, of specific gravity 1005° ; it formed a little flocculent precipitate when boiled; it contained albumen, chlorides of sodium, calcium, and magnesium, and traces of lactates and phosphates of soda and ammonia; when boiled it evolved a little ammonia.

The preceding results show just what we might have expected, that the liquid of spina bifida is feebly albuminous, and similar in composition to the liquid of other dropsical effusions. I prefer giving the detail of the mode of proceeding, in order that others may have the same means of judging of the correctness of the analyses as myself.

Birmingham, April 28, 1846.

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LOSS OF BLOOD IN OPERATIONS.

Especially you should take care that there is as little hæmorrhage as possible at the time of the operation. Never believe those who, standing by at an operation, say, "The patient has lost no more than will do him good." Hæmorrhage, during any operation, is a great evil; and it is one of the chief causes of failure. It is not that the patient dies directly of hæmorrhage, but that he may do so indirectly. It lays the foundation of erysipelas, and of venous inflammation, and other mischief, some time afterwards.—*Sir B. Brodie's Lectures.*

ON CERTAIN

# PATHOLOGICAL CONDITIONS OF THE BLOOD,

AS IT EXISTS IN PHTHISIS PULMONALIS.

By William Camps, M.D., Ed.
Physician to the Farringdon General Dispensary.

In a short paper inserted in the pages of the London Medical Gazette, at the end of the last year, I introduced what was known in the present state of pathological science, of the condition of the blood in Cancer. The object proposed in the present communication is to call attention to the condition or state of the same important fluid in another disease, of more frequent occurrence it is true, yet a disease which may be regarded as partaking of the same or similar nature; and connected with, if not arising from, certain recognized morbid characters of the blood. Attention to these particular states of the blood I believe to be of the utmost importance, more especially with reference to the employment of therapeutic agents, of whatever class they may be. By reasoning from facts made known to us by chemical analysis and by microscopical observation, we may hope to attain to something like success, by the proper application of remedies calculated to fulfil the legitimate ends of the practice of medicine, namely the prevention, relief, or even cure, of that disease of the state of the blood on which this paper professes to treat.

I find that Messrs. Andral and Gavarret have analyzed the blood drawn from thirty patients affected with tubercular deposits in the lungs. In seven of these thirty cases, the tubercles existed in an unsoftened crude condition; in nine others, the tubercles were in progress of softening; and in the remaining fourteen, the lung or lungs presented numerous cavities from the further progress of the disease. In the first of these series, namely those in which the tubercles were still in their unsoftened crude state, they found, in nine separate bleedings performed on six patients of this class, that the fibrine was in its normal physiological proportion, seven times, varying from 2·7 to 3·5; but that twice it greatly exceeded its proper

physiological proportions, ranging as high as from 4·8 to 5·1. In these two last instances there was, however, co-existent with the phthisis pulmonalis, an inflammatory complication; in the one a sub-acute entero-colitis, and in the other a more severe bronchitis than usually accompanies the first stage of phthisis. In the nine cases of the second class, namely in those in which the tubercles were in progress of softening, different results were obtained. For in nine out of ten bleedings, practised on these patients, the proportion of the fibrine, although not uniform, was observed invariably to exceed its physiological limits; sometimes but slightly so, scarcely reaching so high as 4 parts in 1000 of the blood, sometimes more than this, and varying between 4· and 5· parts in 1000.

In the 14 cases of the third class, the fibrine of the blood was found, in 12 instances, greatly to exceed its proper physiological proportion; much above that observed in the patients of the second class. For in these, the minimum proportion of fibrine was 4·0, and this was observed in only one instance; in three others it varied from 4·4 to 4·6, whilst in all the rest it reached as high as from 5·0 to 5·9.

The same observers arrived at results deserving of attention with reference to the proportion of the globules of the blood in phthisis pulmonalis. From the earliest development of tubercles in the lungs, and when their presence can with difficulty be ascertained by auscultation, the globules are even then found to exist in diminished quantity. Indeed, Mons. Andral states that he has not observed them to reach their proper physiological proportion, when tubercles have become developed in the lungs, even in their first stage; the highest proportion in which he has remarked them to exist being only 122 in 1000; and the lowest proportion being 99 in 1000, but usually varying from 120 to 100 in 1000 parts of blood.

The analyses of blood in this same disease by Messrs. Simon, and Becquerel and Rodier, confirm the foregoing observations of Messrs. Andral and Gavarret in reference to the proportions of the fibrine and the blood-globules.

I need not attempt to crowd the pages of the London Medical Gazette with tabular analyses of the blood in phthisis pulmonalis; its readers will find many of those of Messrs. Andral and Gavarret, Becquerel and Rodier, and Simon, minutely recorded in Simon's Animal Chemistry, translated by Dr. Day, and published by the Sydenham Society, to which, therefore, I must beg to refer them. (*Vide* article Blood—Phthisis Tuberculosa.)

The facts just mentioned are in my opinion deserving of great attention, as they may direct us in the selection of proper and efficient methods of treatment towards either the prevention or relief, or even cure, of this frequently fatal disease. They show to us that phthisis pulmonalis, if it do not originate in, is at least connected with, an enfeebled state of the constitution, pointing out the necessity of avoiding every condition of life which may either produce or maintain, or augment this.

If we assume, what is now almost generally admitted, that the source of the red blood-globules is the lymph-corpuscles, which present so close a resemblance to the nuclei of the blood-globules, and that this change takes place principally during the process of respiration, we can easily understand how, from causes which interfere with, or greatly impede, the due performance of this function, the normal proportion of the blood-globules may become diminished. The pathological conditions of the lungs in phthisis pulmonalis in all its stages, from its very commencement to its termination in fatal cases, and whatever may be the exact seat of the tubercular deposition in these organs, whether in the walls of the air-cells or in the intervening cellular tissue, are such as greatly to interfere with the process of respiration, and thus maintain this observed diminished proportion of the red blood-globules, although it is possible other, and at present unknown, causes may operate to produce this relation of the blood-globules to the other constituents of the blood.

It is otherwise, as regards the proportion of fibrine observed in the blood in phthisis pulmonalis. In phthisis, and in cancer also, so long as the morbid deposit constituting either tubercle or cancerous matter (scirrhus), remains in the form of hard masses or

portions; as tubercle is seen in its first stage, and without evidence of an inflammatory condition around them, the blood, on chemical analysis, yields its normal or physiological proportion of fibrine; but, in proportion as these hardened morbid deposits advance towards a state of softening, and a process of inflammatory action is established around them, then the blood is observed on chemical analysis to afford a progressively increasing proportion of fibrine; on which account M. Andral supposes the excess of this constituent of the blood to be owing, not to the development of the accidental morbid product, but rather to the inflammation supervening during some period of its existence. This opinion he has confirmed by repeated examination of the blood taken from patients suffering from phthisis pulmonalis and cancer in their various stages, and accompanied with well-ascertained complications.

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## A TABLE OF URINARY DEPOSITS.

By Ray Charles Golding, M.D.

### α. *Lithates.*

1. Urine, white, yellow, red, or pink.
2. Of acid re-action.
3. Clarified by heat.
4. Is soluble in alkalies.
5. Dissolves in nitric acid with effervescence.
6. Solution in alkalies precipitated by acids.

### β. *Phosphates.*

1. Urine feebly acid, neutral, or alkaline, when tested with litmus paper.
2. Is soluble in weak acids.
3. Deposits unaffected by heat.
4. Deposit of phosphate of lime, amorphous; urine of high specific gravity, unaffected by caustic potash.
5. Deposit of mixed or fusible phosphates; urine of low specific gravity, easily becoming putrid.
6. Triple phosphates: deposit crystalline, and soluble in acetic acid.

### γ. *Oxalate of lime.*

1. Urine mostly neutral, sometimes fully acid, or alkaline: specific gravity about 1020.
2. Is transparent, of a pale citron or greenish hue, and free from sediments.
3. Insoluble in acetic acid and in warm dilute nitric acid.
4. Oxalic acid set free by boiling with sulphuric acid (?)
5. Alkaline efflorescence of carbonate of lime before the blowpipe, reddening moistened turmeric paper, if sufficient deposit can be collected: carbonic acid and carbonic oxide gases being at the same time evolved.

### δ. *Cystic oxide.*

1. Urine greenish yellow, and as the phosphates generally coexist with the cystine, it has a peculiarly fœtid smell.
2. Is deficient in urea and lithic acid; specific gravity about 1020 or 1022.
3. Is rare in man, but prevalent in the canine and feline races.
4. Soluble in acids, fixed alkalies, and their carbonates.
5 Insoluble in alcohol, water, carbonate of ammonia, and nearly so in acetic acid.
6. Will not combine with the acetic, tartaric, or citric acids.
7. Soluble in caustic ammonia, but re-precipitated by acetic acid.

### ε. *Sugar.* (*Grape.*)

1. Saccharine urine peculiar to man.
2. Urine clear and green, unless the lithates or phosphates are accidentally present.
3. Average specific gravity 1040; but may range from 1025 to 1055.
4. Has a sweet taste, a vapid odour, and readily ferments.
5. Trommer's test (Berlin, 1841): sulphate of protoxide of copper and liquor potassæ; a brown sub-oxide of copper is precipitated on boiling.
6. Growth of Torula (ovoid) at 70° F., and vinous fermentation with yeast at 80° F. (Christison).
7. Ronge's sulphuric acid test: carbon deposited.
8. Rich brown when boiled with an equal weight of caustic potash (Moore).
9. Hunefield's chromic acid test: bistre brown colour produced by exposure to bright solar light.

### ζ. *Albumen.*

1. Specific gravity 1024, 1020, 1013, or lower.
2. Coagulated by heat and nitric acid, if no redundancy of lithates or phosphates exist.
3. If coagulum fragile is indicative of a chylous origin, and as such

coagulates spontaneously, and contains blood discs.

4. Deposit of lithates equally well produced by nitric or muriatic acid: not so albumen.

5. Lithates dissolved by a gentle heat (about 70° F.); albumen coagulated at 157° F.

*η. Pus.*

1. Forms a greenish yellow pulverulent deposit, closely resembling the phosphates, which becomes mucoid and tenacious on the addition of caustic potash.—(Babington.)

2. Pus-globules and sometimes oil-globules seen under the microscope.

3. Urine supernatant on the purulent deposit usually clear.

4. Renders urine acid, with no tendency to become alkaline.

*θ. Mucus.*

1. Urine muddy and alkaline; does not contain oil-globules.

2. Urine contains phosphate of lime and triple phosphates in abundance.

*ι. Bile.*

1. Colouring matter insoluble in water.

2. Stains linen permanently reddish brown.

3. Precipitated green by muriatic acid.

4. Nitric acid produces a greenish tinge, soon passing to red, blue, violet, and pink.

5. Soluble in caustic potash.

*κ. Xanthic Oxide.*

1. Urine very similar in appearance and reaction, to lithic urine.

2. Yellow hue produced by nitric acid, and a reddish one by caustic potash.

*λ. Urea.*

1. Urine of high specific gravity.

2. Crystals of nitrate of urea, produced by the addition of nitric acid to the urine and exposed to cold.

*μ. Blood.*

1. Blood discs seen under the microscope.

2. If much blood be present the urine will be albuminous.

3. A light red colour sometimes produced on the addition of common salt to bloody urine.

*** Our correspondent should now direct his attention to the tabulation of the mixed deposits, and the means of separating one from another.

## OBSERVATIONS ON LIGATURES AND ANEURISMS.

By T. Wilkinson King,
Lecturer on Pathology at Guy's Hospital.

[Continued from p. 640.]

Section III.—*The Hunterian method of tying vessels was not by cutting ligatures, and not the less secure. Great vessels closing spontaneously. Scarpa, C. Bell, and P. Crampton, for gentler ligatures.*

Mr. Hunter observed, "that in dogs the mere exposure of the tibial artery to the air for about an hour excited such a degree of inflammation and thickening of its coats as completely to obstruct its canal"* (On the Blood.) Mr. Frere gives a very pretty drawing of the tibial of a horse, thickened and narrowed by recent active inflammation in consequence of pressure used experimentally. We see inflammations, granulations, and contractions, closing up wounded arteries of limited size, and shutting up the vessels in vomical cavities. Other facts of this kind will yet be adduced of even greater importance.

It is remarkable with what negligence authors in general have regarded solid principles, with respect to a fair and broad theory of closing arteries.

Considering all that yields to the blood pressure in arteries; how tegument, muscle, nerve, ligament, and bone, are eaten away under the pressure of an aneurism, or a new vascular growth; where shall we look for organic forces capable of resisting such tensions? The answer is not doubtful nor scanty.

A certain hypernutrient action, or a subsequent contraction, may, in spite of aortic distension, close up the orifice of the coronary artery, the carotid or intercostals, and narrow the aorta itself as well as all its main branches.†

* Crampton, Med. Ch. Tr. vol. vii. p. 345.

† There is a curious result of tension in the mouths of some arteries when unnatural changes occur in the direction of the circulating blood.

The pulmonary artery being absent or imperfect, the bronchial branches of the aorta become extremely enlarged in consequence of the great facility with which the blood is transmitted, but this change is not extended equally to the orifices of the bronchial arteries, because the tensions of the aortic tube keep up that measure of

It is a similar effect when the tissues of organs become condensed almost to the exclusion of blood, and it is a momentous reflection that very little more than granulations about an artery may contract to the blocking up of the channel.

The old mode of tying vessels gave 75 per cent. of successful cases. It does not appear that the new or tight ligature has had quite as great success when applied to the same vessel; namely, the femoral.

On the other hand, it may be said that, according to record, the tight ligature of still larger arteries has met with success nearly equal to that recorded for the Hunterian method applied in the thigh. Yet the records may deceive us here. In former times it seems almost to have been credit enough to record an operation, while in latter times, as to ligature at least, the operations may be said to be common, and the dignity of success more needful for an attractive narrative, unless the accounts involve rare particulars.

Modern successes, too, have depended something on less advanced stages of the disease.

Those who desire to have the clearest idea of the Hunterian ligature must divest themselves of all modern notions, and read Hunter for themselves. Of course the surgeons of old knew something of the closure of minor vessels when cut, and of the surgery of amputations, and of laying open aneurisms.

I think it is abundantly evident, and hardly less ridiculous, that in spite of the distinct expressions of Hunter and his followers, Dr. Jones starts with the assumption that, if an artery be well tied, the inner tunics are divided.

I should say, judging from a series of human specimens, the repair internal to the vessel is nothing in any case. Dr. Jones made quite enough of external effusions *to become organised*, (in which I have no present trust). Manec seems to omit all idea of salutary external changes. Wishing to be brief even as to what is real and positive, I cannot dwell on these discrepancies.

A measure of unhealthy inflammation diffusing may disorganise some extent of arterial tunics to induration, contraction, and internal effusions, &c. Experiments on young animals may cause great effusions around the vessel; in other cases, human, &c. the inflammation or repair is most limited, as it should be. In a healthy body parts alone should undergo changes as they have been injured, or are subjected to new physical or other influences.

In Mr. Hunter's third attempt to secure the femoral artery for popliteal aneurism, in a man æt. 35, a single ligature (including also the vein), was applied "*so slightly as only to compress the sides of the artery together, sufficiently tight to prevent the pulse in the sac without injuring the coats of the vessel*" The separation took place on the 14th day, and on the 28th the patient seemed well. The sac suppurated, and the cure was complete by the 12th week. In his fourth case the vein was excluded; the thread separated on the 29th day. Suppurations and ague delayed the cure for three months. The fifth patient was a man, æt. 42; the ligature came off on the 11th day: he was well by the fifth week.

Mr. Lynn's patient was aged 25: a broad ligature was tied *so as to cut off all communication with the tumor* in the ham; it came off on the 13th day, and he was well in a month.

Mr. J. Earle, on a man æt. 50, employed a simple ligature, which separated on the 15th day with the best success.

Sir E. Home's second or supplementary paper contains similar cases. He operated on a man, æt. 32: the thread came off on the 11th day, and the cure was complete in five weeks; and on a man, æt. 36, the separation was on the 12th day, and on the 28th he was well. Sir E. put a ligature on the femoral of a man, æt. 33; it came off well on the 12th day. On the 32d, the like was done to the opposite vessel, which after thirteen days gave rise to repeated bleedings. These were finally subdued by pressure, &c. Mr. Knight tied the vessel for a man, æt. 35. There was a slight hæmorrhage from the wound on the

nourishment in its coats which is common to the vessel in its normal state, and these tensions have more influence around the mouths of vessels than the forces which dilate the vessels themselves.

Such facts are neither solitary nor devoid of practical indications.

23d day; the separation was on the 31st, and the cure speedy.

All these ten successes I must connect with the gentler ligatures, although I may be wrong. It seems quite certain that they long preceded the odd discovery,* of what happens on tying an artery with force enough to cause that sudden giving way of almost every thing, which is felt almost unpleasantly even post-mortem.

It may be inquired what were the unsuccessful cases of the first Hunterian experiments? They are few and instructive, but by no means prejudicial to the main point of our present consideration. Sir E. Home's concluding case was that of a gentleman, who probably drank to the last. Active inflammation and bleedings on the 11th and 12th days were fatal. Hunter's first attempt is no slight lesson. A man, æt. 45, had four ligatures put on the femoral artery and veins at once, and tied so slightly as only to compress the sides of the artery together. On the ninth day there was bleeding; on the fifteenth a thread came off, recovery was only retarded by abscesses, discharging ligatures, &c. His second experiment was to use one ligature to both artery and vein *to stop the current;* it came off on the 14th, and on the 19th there was hæmorrhage. A fresh ligature led to fatal bleeding a few days afterwards. I conceive that if the wound had not been forcibly kept open the bleeding would not have occurred, or would have been trivial.

History must tell all that succeeded the true Hunterian operation. Ligatures thick and thin, round and flat, long and short, soft and hard, double or sixfold; ligatures of reserve and temporary, upon cork or plaster, or even with a bougie to plug the artery, the presse artere, serre artere, &c. &c.; these were some of the modifications that had their day. England adheres to tight ligatures, and calls them Hunterian, without a shadow of authority. All Europe besides is at least less confident.

There is yet a good variety of experience in favour of gentle ligatures. There are abundant scattered cases of Hunter's immediate followers at home and abroad, and I have already shewn by the calculations of Mr. Phillips that the success was good.

Early in the seventeenth century M. A. Severinus once tied the femoral with success. In 1688, we learn that Bottentuit succeeded with a simple ligature, and before 1772 Guttani exposed the inguinal, and with graduated compress or roller closed it speedily. All this I attach to loose ligatures rather than cutting ligatures: always remembering, however, that inflammation of the arterial tunic may casually aid the final contraction of the orifices, while the indispensable sealing of the divided vessel in the absence of such casual contraction depends essentially on external fibrous tissue, as it were two little acorn-cups united by their stalks, new growth fashioned by definite tractions and tensions. The products of diffused inflammation around may be useless or mischievous, but *the shining threads and bands stretched over and between the two compressed ends of the artery (as they gradually recede from each other), close over the separating ligature, and are invaluable and alone indispensable.* Violent inflammations may leave unequal consolidation and contractions even to obliteration of vessel for inches.

Scarpa's cases afford some remarkable evidence in favour of slow ligatures, and even of late hæmorrhage. (See his Appendix.)

For a man, æt. 25, he cut open a femoral aneurism, and applied two moderate ligatures. There was bleeding on the 11th day, stayed by his reserve ligature with compression. The separation was on the 20th, and the cure good (1794).

A man, æt. 33, had a sixfold thread put on the femoral with one of reserve. They came away on the 16th: after the 20th there were bleedings, but the case did well. (Morigi, 1796).

Scarpa's full plan was put in force on a man, æt. 42. Two sixfold ligatures with compresses were put on the femoral. They came away on the 18th. A little blood oozed from exertion, but the cure was speedy, (1800.)

The same is related of a man of 46, except that there was no bleeding, and that after the 36th day fatal sloughing supervened in the sac, (1799).

* Dessault in France, and J. Thompson in Scotland, share this honour. It was dividing arteries that introduced very tight ligatures.

And again, the same as the last, but the casting was on the 21st, and abscess only retarded recovery, (1804).

One of his cases is harder to dispose of. The full treatment, if I may so speak, was applied near the profunda of a man æt. 34. The separations seem to have been near upon the 8th day, and without any mischief, (1803). What would the cutting ligatures have done?

His full plan was thrice employed with success on the brachial, the six ligatures separating all between the tenth and thirteenth days. Latterly Scarpa had again and again fair success by applying a loose ligature over plaster on the femoral artery only for four days. Just so likewise on the brachial artery.

Mr. P. Crampton applied a tape $\frac{1}{8}$ inch wide by means of a presse artère on the superficial femoral, and the tightening was stayed just as the tumor ceased to beat. After two hours the tape was somewhat loosened, and at the end of 24 hours completely relaxed. In due time the aneurism seemed to be fairly stopped. Mr. Dease did the like operation, continuing the pressure for about 24 hours. The cure seemed complete in a month. (M. Ch. Trans. vol. vii. 369).

Sir C. Bell left a thread quite loose around the artery of an animal; the vessel became filled with clot, shewing that the coats inflamed.

Sir C. Bell (Institutes of Surgery), distinctly observes, "it is not necessary to draw the ligature so as to cut the inner coats of the artery, and it is not safe, unless in young and healthy subjects, and in amputations. You will observe that the important consideration is, the mode in which a ligature should be employed in old arteries subject to aneurism. It is very dangerous to apply the experience acquired in operating upon the healthy subject to the subject of aneurisms—far less is it safe to draw conclusions from experiments on brutes! Any mode of securing the artery will do in the young and healthy individual, and in amputation."

The latitude which Sir Charles gave his pupils, seeing he was almost singular in his doctrine, may seem natural; yet, I must think it beyond the point of safety in any case. It would have been well to explain fairly what he deemed "folly." One modern declares for tight ligatures, even exaggerated with an adjective oath.

Sir Philip Crampton certainly ranks with Sir C. Bell as an opponent of the over-daring followers of Jones. We have seen that one-seventh of the successful ligatures have caused some hæmorrhage; and we have seen that the event is least serious when late; and we may at least contrast with the violent practice, the suggestion that, in a given proportion of cases, the most proper mode for the particular constitution to separate a considerable ligature, is with some bleeding; that is, that the surgeon should anticipate slow and scanty repair, and that all his views should be directed to such a mode of cure. At all events, it is most certain that both local and general circumstances are now and then imminently dangerous, in proportion as the ligature is made to destroy the scanty films which temporarily restrain the efforts made by the blood to burst out; and *safe* in proportion as the granulating repairs (or the like) are matured to shut the door after bleeding has diminished the irresistible tension within. Yet, no doubt, the fear of erosion, or wasting, may be greatest after depletions.

I imagine the successes of Assalini's forceps depend mostly on repair external at least to the lining of the artery, and certainly not on division of this membrane; and some decided evidence for gentle ligatures and correlative principles is found in the history of the serre-artère animal ligatures, and the practice of some able American surgeons. (Vide Reese's American edition of Cooper's Dictionary, and H. G. Jameson, in American Med. Recorder, 1827)

It will be seen that I regard cure after hæmorrhage as a proof that the main sealing is external; and it will be understood that what I describe as the sole essential repair is consistent with the least of what is called inflammation, and the scantiest material re-formations. It is certain that the least diffused inflammation consistent with the injury done to a healthy body, is that on which we ought to reason when considering healthy repair; the more complicated case follows—thickening and contraction of vessel, in the second place; inflamma-

tory changes within, in the third place.

I regard as quite insignificant the common, narrow, conical clot, small and loose, except that its base or nucleus is attached to an inorganic effusion the size of a pin's head, where the vessel is gathered up to a mere point.

[To be continued.]

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### DEATHS FROM CHILDBIRTH IN THE SEVENTEENTH CENTURY.

"In regular times, when accompts were well kept, we find that not above three in 200 died in *child-bed*, and that the number of *abortives* was about treble to that of the women dying in child-bed; from whence we may probably collect that not one woman of an hundred (I might say of two hundred), dies in her labour; forasmuch as there be other causes of a woman's dying within the moneth, then the hardness of her labour. If this be true in these countries, where women hinder the facility of their *child-bearing* by affected straightning of their bodies; then certainly in America where the same is not practised, nature is little more to be taxed as to women, then in brutes, among whom not one in some thousands do die of their deliveries; what I have heard of the *Irishwomen* confirms me herein."—*John Graunt's Observations on the Bills of Mortality*, 1662.

*** It may be as well to observe, that from the registration returns of 1842, there were during that year in England and Wales, exclusive of the metropolis, 457,499 births, and the deaths from childbirth were 2366, or 1 in 193. The births in the metropolis during the same period were 60,240, and the deaths from childbirth 321, or 1 in 187 cases,—the mortality from this cause being proportionably rather greater in the metropolis than in the provinces. As, however, the births are divided by the deaths from childbirth, and there is no return of twin and triplet cases, the deaths would be proportionally greater than here stated, were it not that the non-registration of still-born children tends to produce a contrary result; for many women may die from childbirth, whose children are still-born, and therefore not registered. With this correction the divisor would be smaller, and the proportionate deaths fewer in number. It is, however, somewhat remarkable that the mortality should differ but little from that which is here stated to have existed two hundred years ago.

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# MEDICAL GAZETTE.

FRIDAY, MAY 8, 1846.

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While the Legislature is about to make a praiseworthy attempt to improve the health of the inhabitants of large and populous towns, by enlarging streets, — cleansing and removing nuisances, supplying water and introducing improved and compulsory systems of drainage and sewerage, it may be as well to consider whether some of the new projects which are the offshoots of the Health of Towns' Bill, are not calculated to extend disease and mortality among the inhabitants of the suburbs. There can be no doubt that the spread of typhus and other infectious diseases, is greatly aided by the want of proper drains and sewers in close and ill-ventilated streets. It is also certain that the nitrogenous substances which during decomposition are thus productive of disease, possess highly fertilizing properties; and that to the agriculturist, they are almost invaluable as manure: but it appears to us only reasonable that in profitably employing the refuse, due attention should be paid to the health and convenience of suburban populations.

We are induced to make these remarks, from the fact that there is now before Parliament, a bill empowering a Company to convey the sewerage waters of the metropolis to Hounslow and the district surrounding it. The refuse is there to be collected in tanks or "other conveniences," and then distributed as manure over the surrounding country. In other words, the Company merely require permission to form a kind of "sewerage lake," and to keep some of the metropolitan parishes in a state of order and cleanliness, at the expense of the health of

the inhabitants of an extensive suburban district. Now it appears to us that we have no right to pollute the air of an inhabited part of the country, for the sake of purifying that of a large town; and if we are to have a mere transference of the noxious effluvia from one inhabited district to another, we really think it is paying dearly for the unlimited fertility which is said to result from the use of this kind of manure. It is true, that in a suburban district, there is a more free access of air, but admitting that it is the non-removal of town-refuse which now increases the mortality from disease, it is obvious that by the change we are merely diluting and not destroying the noxious effluvia, — in other words, we are transferring the causes of disease and death from one locality to another!

It never can be intended by the Legislature that the Health of Towns' Bill should become the parent of so many "Rural Mortality Bills;" but unless some measures are taken to prevent the escape of these effluvia from the tanks, stations, "and other conveniences," which the Metropolitan Sewage Manure Company propose to construct, we are satisfied that the health of the inhabitants who live in the immediate vicinity of these "sewage conveniences," must suffer. In many country villages the want of proper drains leads to the collection of large quantities of filth and putrefying refuse in ditches surrounding the dwellings of the poor; and it is precisely in these spots that fevers and infectious diseases acquire their most virulent character. Although the inhabitants do not live in a close and crowded street, and they have the free and pure air within a short distance of them, the maintenance of these sewage "stations and tanks" on a small scale is well known to be productive of frequent attacks of disease and of great mortality. The Metropolitan Sewage Manure Company propose to try this experiment on a large scale; and in a district which is daily becoming more and more populous, they intend to accumulate the refuse of large metropolitan parishes, in order at the same time to poison the inhabitants and fertilize the soil!

We are aware that, under proper precautions, refuse of this kind may be safely used as manure; and it has been proved by evidence that in Edinburgh and other localities, the productiveness of the land has been thereby considerably increased; but this does not show that the effluvia are not highly injurious to health, and that they cannot be respired with safety, even in a diluted state. Besides, we do not see how the mere removal of refuse for a distance of ten miles in covered channels, is to disarm it of that virulent power of aggravating disease which it was so clearly proved to possess by the evidence given before the Health of Towns' Commission. In Northern Italy, there is a wise law, that rice crops shall not be grown within seven miles of an inhabited town. This is owing to the noxious character of the effluvia which proceed from the rice fields after they have undergone irrigation; and we think some rule of this kind should assuredly be adopted in England in order to prevent the transference of nuisances from one inhabited spot to another.

The effluvia consist chiefly of sulphuretted hydrogen, phosphuretted hydrogen, carburetted hydrogen, hydrosulphuret of ammonia, and animal matter in a state of vapour. None of these gases can be respired with impunity; and the observations of French pathologists have shown that, sooner or later, disease and death are likely to be the consequences of respiring them even in a

diluted state. If, therefore, the promoters of schemes of this kind are desirous of making a profitable use of town-refuse, they should be compelled to fix their tanks and conveniences at a certain distance from inhabited dwellings, and to keep the refuse under cover. The fertilizing properties of manures bear no ratio to their offensiveness and noxiousness. These properties may be brought out, without leading to a pollution of the atmosphere; and until some better means are devised, we do not see why, previously to the refuse being spread over the country, it should not be well mixed with charcoal, in order to fix the effluvia. This would not impair its properties as a manure, while it might tend to disarm it of its noxious effects on a town or rural population.

There is another view of this question upon which it would be out of our province to dwell. It is comprised in the old maxim, "*Sic utere tuo ut alienum non lædas:*" but in the progress of manufactures this maxim seems to be going daily out of fashion. To "corrupt the air with noisome smells" was regarded in Blackstone's time as a nuisance: this, however, has been a privilege long enjoyed by town populations; and it is now proposed, for the sake of doubling crops and profitably employing our own guano, to try the effects of foul effluvia upon the inhabitants of the suburbs.

## Reviews.

*Observations and Essays on the Statistics of Insanity: including an Inquiry into the Causes influencing the Results of Treatment in Establishments for the Insane. To which are added, the Statistics of the Retreat, near York.* By JOHN THURNAM, Licentiate of the College of Physicians. 8vo. pp. 334. London: Simpkin and Co. 1845.

A REMARKABLE contrast is observable between the works on insanity published in the present day, and the larger proportion of those which appeared some fifteen or twenty years ago. At a time when the whole system of treating insanity, wherever anything at all approaching to a regular plan of treatment was attempted to be carried out, consisted merely in the employment of rigorous coercive measures, and the occasional use of medicines in a manner as irregular as it was injudicious; nearly the whole of the treatises on insanity which issued from the press were replete with knotty discussions upon the constitution of the human mind, and interminable arguments in imitation of the writings of the great metaphysical luminaries of that day; but now, singularly enough, when physicians have learned that insanity is, in all its forms, more or less amenable to the judicious employment of moral influence, all the most important recent works on the subject are almost wholly free from metaphysical speculation, and rest their claims to attention entirely upon the value and the demonstrable character of their practical facts. The cause of this alteration is evident enough; it is no longer necessary that those who undertake the management of the insane should attempt to conceal their want of practical tact with a cloak of theoretical mysticism.

We are glad to find that Dr. Thurnam's work affords a very favourable example of the new rule; it is replete with well-argued and practical facts, and its theoretical passages are so few that, although we have just finished a careful perusal of the volume, we should be at a loss to fix upon one single page of metaphysics out of the entire three hundred and forty.

Dr. Thurnam's principal object in collecting the materials which form the present work, has been to establish the leading facts respecting the causes, duration, and treatment of insanity, by very extensive correlation of numerical data. In this endeavour we conceive he has been eminently successful; he has succeeded in overthrowing a considerable number of erroneous opinions, the truth of which has hitherto been taken for granted, and has elicited or confirmed several fundamental doctrines; but, upon the whole, the work is most valuable as displaying the many

fallacies which are liable to deteriorate from the value of statistical investigations, and as showing the means by which those errors may be avoided, and an accurate system pursued. This alone is sufficient to justify us in recommending every person concerned in the management of the insane to make himself fully acquainted with the principles contained in this volume.

We shall now proceed to quote a few of those passages in Dr. Thurnam's work, which we believe will prove of the greatest practical interest to our readers.

The following is an evidence of one of the drawbacks which attend the labours of those who attempt to argue statistical data from published reports :—

"That reports of the results of treatment have been, and still may be, *purposely falsified*, is sufficiently proved by the history of the York Lunatic Asylum, previous to its reform in 1814. It was at that time ascertained, from a minute examination of the records of that institution, that, whilst 221 deaths only were officially reported, 365 had actually occurred during the thirty-six years which the asylum had been established, at the commencement of the inquiry into its management in 1813. The deaths of 144 patients had been suppressed in the published reports, and by this means the apparent annual mortality, for the thirty-seven years, 1777—1814, was reduced from 11 per cent., its actual rate, to 7·03 per cent. ; or to a lower rate than that which has existed since the reform of the institution (1814—1840). Supposing, as there is every reason to believe was the case, that those concealed deaths were added to the recoveries, the effect must have been that of supporting the credit of the institution in a double manner. In proof of the annual reports having been designedly falsified, it is here, perhaps, only proper to state, that one set of books was kept by the apothecary, and another by the steward, each of which purported to be a correct account of the admission of the patients, and of how they were disposed of; each of these being in the form of a debtor and creditor account; and thus, if the amount was false in one place, it must have been false in more places than one, or else the sums total could not have agreed. The steward's record of the deaths seems to have been tolerably accurate ; but, in the face of this, erroneous statements were year after year published in the York newspapers, which were only detected upon being compared with the parochial register of the burials from the asylum, in the churchyard of St. Olave's."

The following are some of the facts which Dr. Thurnam appears to have confirmed or established upon highly satisfactory numerical data :—

*Sex.*—"That the probability of recovery is greater in women than in men, though the reverse of the opinion entertained by Dr. Burrows, may now be regarded as established ; and it is fully supported by a recent inquiry of the author's into the statistics of different asylums of this and other countries. With two exceptions, hereafter to be reverted to, in every institution the statistics of which he has examined, in which the experience has extended over more than a very short period of years, the proportion of recoveries in women has exceeded, often to a great extent, that in men."

This is proved by an annexed table. On the other hand, the probability of a relapse or of a recurrence of the disorder, after recovery from a first attack, is somewhat greater in women than in men.

Dr. Thurnam also opposes the prevalent opinion, that insanity is more frequent amongst women than in men. He adduces a table (Table 14) in which the relative proportion of cases which occur for the first time are stated ; and, from an examination of this table, it appears that in twenty-four of the thirty-two asylums which it comprises, there has been a decided excess of men in the numbers admitted. In many British asylums, the excess amounts to 25, 30, and even 40 per cent; and in the whole number of thirty-two asylums there is an average excess on the side of the male sex of 13·7 per cent.

*Mortality in the sexes.* — A still greater difference in the rate of mortality of the two sexes is nearly always to be noted. It is well known that there is an excess in the general mortality of this country on the side of males ; but this does not exceed 5 or 6 per cent. The relative difference is enormously greater in the insane in nearly every institution in which the author has had an opportunity of examining on this point. Thus at the York Lunatic Asylum, and at St. Luke's Hospital, the mortality amongst men has been nearly double that amongst women ; there having been an excess on the side of the men of 93 per cent. in the former, and of 96 per cent. in the latter institution. The excess of mortality on the side of males amounted to 72

per cent. at Hanwell; to 71 per cent. amongst the "curable" patients at Bethlem; to 63 per cent. in the Metropolitan Licensed Asylums for Paupers, and to 57 per cent. in those for private patients; to 57 per cent. at Glasgow; to 56 per cent. at Lancaster; to 46 per cent. at Woodbridge; to 34 per cent. at the Retreat, York; to 29 per cent. at Tiegburg, near Bonn; to 13 per cent. Worcester, U.S.; and to 9 9 per cent. at Schleswig, Holstein.

*Influence of age upon recovery.*—"It is now generally concluded that age exerts a very decided influence both upon the proportion of the recoveries and the mortality of the insane. It appears from statements of the results obtained at Bethlem, at the Retreat, and at the Asylum, York, the probability of recovery is greatest in the young, and undergoes a very regular diminution as age advances. On the other hand, the mortality of the insane increases in proportion to the age much more rapidly than is the case in the general population."

*Duration of the disorder on admission.*—"At the Retreat, the probability of recovery in cases brought under cure within three months of the first attack, has been found to be as four to one, and, excluding cases complicated with various bodily disorders, as nine to one; whilst in cases not admitted until more than twelve months after the attack, the probability of recovery is less than as one to four. The proportion of recoveries now mentioned as having occurred at the Retreat, in *uncomplicated* cases of less than three months duration, or that of nine out of every ten cases brought under care, is the same as that which, in cases equally recent, the late Dr. Willis and Dr. Burrows both stated as having occurred in their private practice."

*Influence of the duration of residence in asylums upon the chances of recovery.*—"At Bethlem and St. Luke's hospitals patients are considered incurable and are discharged if not benefitted at the end of a year's residence. In the whole number of 'curable' cases admitted into these institutions, we find that the average duration of residence is little more than half a year at Bethlem, and two-thirds of a year at St. Luke's. Now, as a large proportion of cases of insanity recover after the first, and even after the second year of treatment, it must be obvious that the operation of such a rule as that which exists at the above-mentioned asylums, must not only be that of *diminishing the number of recoveries* reported from such establishments, but, what is of more consequence, that it will likewise be that of lessening the probability of ultimate recovery, in cases thus prematurely discharged, and consequently exposed to various causes of excitement. It also appears probable that a short average duration of residence will also, cæteris paribus, have an *unfavourable effect on the mortality*, by keeping up in the institution a relatively large proportion of cases in the recent stages of the disorder."

The second chapter contains many valuable facts illustrative of the influence of hygienic measures and medical treatment on the statistics of insanity; we regret that our space will only admit of the quotation of a few isolated passages.

*Influence of diet.*—After stating the plan of diet in seven different asylums, and the rate of mortality and recovery in each, Dr. Thurnam observes:—

"Should it be found, as from the preceding table appears highly probable, that the diet of the insane does in truth exert a material influence upon the results of treatment, upon the proportion of the recoveries and the mortality, the necessity for some inquiry into, and equalisation of, the diet in different asylums and hospitals for the insane becomes still more obvious. In the three asylums, with the more liberal diet, we find that the recoveries averaged 43·7 per cent., and that the mean mortality was 9·35 per cent., whilst in the four institutions, in which the diet was less liberal and nutritious, the recoveries only averaged 36·75 per cent., and the mean mortality was as high as 14·54 per cent."

The following extract conveys the author's opinion with regard to the question of restraint; in this we believe he is joined by all the most judicious practitioners of the present day.

"That the insane may, in all cases, be governed by purely moral means, I suppose all will regard as an untenable position, but still I believe we may conclude that there is no circumstance which more decidedly marks a faulty system, and none which is likely to be attended with more unfavourable results, than an unrestrained use of the means of personal restraint, whether these consist in long-continued seclusion, or in mechanical restraint of the body and its members, either by instrumental means, or, what is usually worse, by the physical and manual force of the attendants."

A highly interesting illustration of the value of moral treatment, as contrasted with the brutal system of neglect and coercion formerly employed, is afforded by the statistics of the York Lunatic Asylum, before and after its

reform. During a period of thirty-seven years antecedent to 1844, the annual mortality in that institution varied from 9·5 to 14·8 per cent., and averaged in the total number of years 11 per cent. annually. More than a quarter of a century has now elapsed since an entire change was wrought in the management of the asylum and in the treatment of the patients, and during this time the annual mortality has been reduced to 7·24 per cent.

*Proportion of recoveries.*—An examination of tables which he adduces, will, Dr. Thurnam believes, justify the conclusion, that, as regards the recoveries in asylums which have been established during any considerable period,—say twenty years,—a proportion of much less than 40 per cent. of the admissions is, under ordinary circumstances, to be regarded as a low proportion, and one much exceeding 45 per cent. as a high proportion.

*Rate of mortality.*—"The mean annual mortality of the insane in English public asylums, exclusive of Bethlem and St. Luke's, so far as can be ascertained from their first establishment to the present time, has been 11·86 per cent.; viz. that of county asylums for paupers only, 13·88 per cent.; that of county asylums, receiving both private and pauper patients, 10·46 per cent. The mortality of seven Scotch asylums has been 7·52 per cent., and that of ten Irish district asylums, during the comparatively short time they have been established, 8·7 per cent. Extended inquiry and consideration appear to justify our concluding that, taking considerable periods of time, during which there have been no extraordinary disturbing circumstances in operation, in a mixed county asylum, or in one for the middle and more opulent classes as well as paupers, a mortality which exceeds 9 or 10 per cent. is usually to be considered as decidedly unfavourable, and one which is less than 7 per cent. as highly favourable. In regard to pauper asylums, I believe we may conclude, under similar limitations, that a mortality which exceeds 12 or 13 per cent. is a very unfavourable one; and that one which is much less than 10 per cent. is highly favourable."

*Relative liability to insanity at different ages.*—The author believes that the conclusion which was arrived at by Esquirol, that "the longer men live after attaining maturity, the more obnoxious they become to the causes which give rise to derangement or lesions of the understanding," is founded upon an erroneous method of statistical analysis. From calculations which he adduces, Dr. Thurnam concludes that—

"There can be little or no doubt that the period of life most liable to insanity is that of maturity, or from 20 to 50 or 60 years of age. From 30 to 40 years, the liability is usually the greatest; and it decreases with each decennial period; the decrease being gradual from 30 to 60 years, and after that much more rapid. So far from the liability to insanity being greater in old age than during the earlier stages of life, we find, according to these data, that it is nearly twice as great from 30 to 40 as from 50 to 60 years of age, and that it is much more than twice as great at this period as at any age subsequent to 60. When we remember the tendency of families to overstate rather than understate the age of the patient at the first occurrence of the disorder, we shall perceive that the inference as to the greater liability to insanity, during the earlier ages after manhood, rests on a still stronger foundation."

In his remarks on the liability to insanity among the Society of Friends, the author shows that the proportion of cases which occur annually is about eight in every 10,000 of the population of this community. It has not at present been at all satisfactorily ascertained what is the real proportion of insane in this country to the entire population.

A considerable portion of this work is devoted to an "Historical and Descriptive Sketch of the Retreat, near York;" an institution principally intended for the reception of members of the Society of Friends. This establishment appears to have been one of the first in which the system of physical restraint was in great measure abandoned for that of moral treatment, and Dr. Thurnam has certainly succeeded in rendering the report one which affords a vast number of useful suggestions to the managers of similar institutions. We think, however, that the report should not have been introduced into this work, as it has been made the vehicle of many interesting facts which ought rather to have formed part of a distinct treatise on the statistics of insanity, and which are not very easily referred to in their present position.

The largest proportion of Quakers, amounting to one third of the whole, is found to be attacked between 20 and 30 years of age, (thus departing from

the general rule which was stated above as obtaining in this country,) and the proportions gradually decrease for each subsequent decennial period of life.

Of the whole number of patients admitted to the Retreat, two-thirds or 66 per cent. (64 per cent. for the men, and 68 for the women) had never been married. It is scarcely necessary to say that this is out of all proportion to the number of unmarried persons of adult age existing in the Society of Friends. Of those who were, or had been, married, one-fifth had never had offspring. It appears, however, that in many of these instances celibacy must be regarded to have been a consequence rather than a cause of the individual's mental condition.

Of the 415 patients, 228, or about 55 per cent., have been admitted from cities and large towns, including in this class all places having a population exceeding 5,000; 101, or 24 per cent., were from small towns and villages, and 86, or 21 per cent., from more completely rural districts. As there can be no doubt that a much larger proportion than 55 per cent. of the Society of Friends in England is resident in cities and large towns, there is perhaps some reason for concluding that insanity is more prevalent in the village and rural, than in the city population of this community.

About one-third of the whole number of persons admitted laboured under an hereditary predisposition to insanity. Had the cases been included in which insanity existed in collateral blood relatives, the proportion would have been raised to about one half.

At the Retreat, on an average, one of every two cases of all descriptions recovered. This proportion is somewhat above the general result obtained in the large public institutions of this country and of Ireland, in which the recoveries appear seldom to exceed 40 or 45 per cent. on the admissions.

During the last forty-four years there have been 139 deaths at the Retreat. As there were 615 admissions during the same period, the proportion of deaths to the admissions was 22·6 per cent., but this affords no index to the actual mortality as compared with that of other institutions; as it is evident that no comparison of this kind can be made except where the average duration of residence in the respective establishments is the same.

It is remarkable that, whilst the mortality at the Retreat, from 20 to 50 years of age, especially among males, was double, treble, and even quadruple what it is among the sane at the same ages, at 70 years of age and upwards, it is only slightly, if at all, higher than in the population at large. And thus the author suggests that it appears not improbable that, if the insane survive the 60th year, they are nearly as likely to attain advanced age as the sane.

Out of 126 deaths of insane persons connected with the Society of Friends, 57, or 45 per cent., were upwards of 60, and of these 14, or 11 per cent. of the whole, were from 80 to 97 years of age. Of the 126, there were 23, or nearly one-fifth of the whole, who, at the time of death, had resided from twenty to forty-four years in the institution. The average duration of residence in those who died, connected with the Society of Friends, was nine and a half, and that of others only three years. Of the 126, as many as 48, or 38 per cent., had suffered from the disorder, though in many cases with intervals of sanity, for periods of from twenty to sixty years at the time of death. The average duration of the disorder at death, as nearly as could be ascertained, was 17·31 years, whilst, in the few unconnected with the Society of Friends, it was only 9·34 years.

The *cases* readmitted to the Retreat during the above period were 146 in number, and occurred in 97 *persons*. Of these, 135 occurred in 86 individuals connected with the Society of Friends.

The author has been at considerable pains to investigate the correctness of a statement made by Dr. Matthew Allen, that, among insane persons, "we shall have cases of excitement more liable, on an average, to die at the new and full moons, and cases of exhaustion at the quadratures." The results of cases collected by Dr. Thurnam are quite opposed to Dr. Allen's conclusions; and he of course believes that the operation of such influence is altogether doubtful.

Dr. Thurnam has been long known to the profession as the illustrator of several interesting questions in morbid anatomy and special pathology, and

we were fully prepared, before commencing the perusal of his work, to place the greatest reliance in the caution and accuracy of his observations and deductions. A better acquaintance with the treatise has realised this expectation; it is one which is highly calculated to extend our means of gaining accurate information respecting the various circumstances of mental disease, and which cannot fail to add worthily to the author's reputation.

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*Sixth Annual Report of the Crichton Royal Institution for Lunatics.* Dumfries: 8vo. pp. 36.

*Twenty-fifth Report of the Directors of the Dundee Royal Asylum for Lunatics.* 8vo. pp. 52.

*Fifth Annual Report of the Belfast District Asylum for the Insane Poor.* 8vo. pp. 30.

*Report of the Directors of the Montrose Lunatic Asylum, Infirmary, and Dispensary.* 8vo. pp. 26.

The whole of the above Reports for the year 1844-5, present nearly equal features of interest, as indications of the humane and philosophic spirit which now regulates the treatment of the insane, throughout the whole of Britain, and which has for several years been exercised with great judgment and the happiest effect in France. Each of these Reports is replete with interesting statistical facts, similar to those which have recently been so judiciously collated by Dr. Thurnam, in his important work on the Statistics of Insanity; and, indeed, it is to the publication of Reports of this description that we must feel indebted not only for a large proportion of Dr. Thurnam's deductions, but also for many of the most valuable facts which have, of late years, been adduced in illustration of the nature and progress of mental diseases.

It would be impossible to allude to the whole of the points of interest discussed in these Reports; we shall therefore content ourselves with extracting a few data with reference to the number of deaths which occurred in the several asylums during the space of twelve months.

It cannot be doubted for an instant, that the establishment of the "non-restraint" system, and the plan of treating insanity principally by moral influence, has, in conjunction with an improvement of the hygienic management of asylums, greatly conduced not only to remove mental hallucinations which, under other circumstances, would have proved incurable, but also, in a great measure, to increase the viability of the insane. It cannot, however, fail to be observed that the average of mortality among this unfortunate class still continues to be remarkably large. Improvement in the cleanliness and ventilation of the dormitories, and alterations in the clothing, diet, and employments of the insane, have greatly diminished the frequency of one or two of the diseases which were, at one time, most fatally prevalent in these establishments: among these dysentery and chronic diarrhœa must be especially mentioned: still, other diseases continue to commit very severe ravages, and it would prove an extremely interesting and important task to any able inquirer who would undertake to collect facts respecting the causes of such mortality, and the best modes of diminishing it.

It appears to be very well established, that, even in the best regulated asylums, the annual deaths among the inmates are proportionally from twice to four times as numerous as among members of the community at large. This excessive mortality must be, in a great measure, attributable to conditions of disordered health, which are the almost unavoidable attendants of several forms of insanity. The liability of the insane to organic disease, especially of the nervous and vascular systems, can admit of prevention only to a very limited degree; and the following quotation from Dr. W. A. F. Browne's Report of the Crichton Royal Institution, affords a very fair idea of the amount of physical disease which is apt to be combined with insanity. This gentleman observes that—

"On classifying the patients admitted" (52 in number), "in relation to their state of health, it is found that one laboured under tremor of the muscles, one under scrofulous distortion of the spine, one under hæmorrhage, and one bore a deep and sloughing wound; two had ulcers on the leg, two were dropsical; four paralytic, four exhibited symptoms of diseased heart; seven suffered from cerebral congestion, fifteeen from affection of the organs of digestion and assimilation; and in seven only did the

health appear to be robust. Such a statistic exposition cannot include the shattered and broken-down frames, the premature decay and old age, the weakened and excitable temperaments, which, in whatever way produced, whether contemporaneously with the alienation, or by previous habits, or by the depressing influence of derangement of the nervo-ganglionic organs, require as much solicitude and care as specific disease."

We shall now briefly allude to the number of deaths which occurred in the respective asylums during the last year, premising that the mean annual mortality in English public asylums, exclusive of Bethlem and St. Luke's is calculated by Dr. Thurnam to be 11·86 per cent. annually.

The number of cases under treatment at the Crichton Royal Institution was 173, the recoveries 22, the deaths 12. It is stated that the amount of sickness was greater than during former years, but the diseases were principally those of the nervous system.

In the Dundee Royal Asylum the deaths were 14 out of a grand total of 243 patients; 18 were discharged cured, and 2 improved. The deaths exceeded by two only the highest gross number of deaths ever recorded in this asylum. The increased mortality is attributed to the extraordinary severity of the spring of 1845, "the manner of death," (?) "and the number of patients who were admitted almost, as it were, just to die."

The total number of patients in the Belfast Asylum was 377, the recoveries* 68, the deaths 40. The majority of the fatal instances are stated to have been of a kind in which medical treatment could absolutely do nothing, the subjects being completely worn out in mind and body. Several of the patients were advanced in age, and some entered the asylum only to die.

The inmates of the Montrose Asylum were 262 in number; of these 225 were discharged cured, and 12 died.

It will be perceived that the whole of these reports are more or less favourable, as respects the mortality in the several asylums, with the exception of that at Belfast, where the number of deaths greatly exceeded the mean average, amounting to 15·50 per cent.† The causes of this extra mortality have been very fairly stated, and certainly appear to have been, in most instances, of an inevitable kind; old age and constitutional decay, the result of years of exposure and want, are, of course, incurable states; but we observe that in the table of the causes of death (p. 18), 19 patients are stated to have died of "general debility and exhaustion;" certainly a very large proportion of deaths from such causes. There were also two deaths from chronic diarrhœa. Dr. Thurnam, if we recollect his expression right, justly terms the occurrence of this disease in any asylum "a very suspicious circumstance." Upon turning to the dietary of this asylum, we find that the meals consist of "mixed milk, potatoes, soup, bread, and stirabout;" a portion only of the "convalescent patients who are actively employed being allowed four ounces of boiled meat, in addition to the soup, four days in the week." We cannot, of course, judge how far the above diet may be calculated to agree with patients who have from birth been accustomed to very scanty supplies of animal food, but we certainly do think that there are many instances of confirmed mental aberration in which a sufficient meat diet is as necessary for the health of the patients, as it is for sane persons following their ordinary avocations.

The Belfast Asylum receives a very large number of inmates (377), and, from a humane disinclination to reject distressed applicants, the male department was "full throughout the year, and occasionally most inconveniently so." The increased mortality does not, however, appear to have been attributable to this cause, as by far the larger number of deaths occurred in the female wards, which do not appear to have been crowded. The average annual expense of each patient, this year, including every charge of management, was £12. 9s. 7¼d. We are not aware whether the resources of this asylum are sufficient to admit of any considerable changes being made in the domestic arrangements of the establishment, or indeed whether the mortality which occurred last year could have been lessened by any precautions whatever. Still we beg to direct the attention of the medical officers and governors to the

* In the whole of these reports, the number of patients "relieved" is stated, but cases of this uncertain description afford very questionable evidence as statistical data.

† Calculated on 258·83, the average number.

particulars which we have noted down. In all instances where the annual mortality at all exceeds the average, where typhus or any other contagious disease, phthisis, dysentery, or chronic diarrhœa, occurs among the inmates of a lunatic asylum, the matter should at once be made the subject of careful deliberation by the authorities, especially with reference to anything which may admit of improvement in the cleansing, ventilation, drainage, heating, &c., of the building; or the food, clothing, cleanliness, exercise, &c., of the patients.

We attach great value to faithful reports of this description, and trust that they are regularly interchanged by the authorities of the several asylums throughout the country. We are confident that those who have the management of such institutions will always feel anxious to adopt the various useful suggestions with which most of these reports are plentifully fraught.

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*Untersuchungen über den Kretinismus.* Von Dr. Maffei und Dr. Rösch 2 Bände. Erlangen. 1844.

*Researches on Cretinism.* By Dr. Maffei and Dr. Rösch. 2 Vols. large 8vo. pp. 234. 202. Erlangen: F. Enke. 1844.

Dr. Rösch informs us that he was induced to undertake the publication of these researches from the fact that he had been appointed by the king of Würtemberg to inquire into the condition of Cretins in various parts of that kingdom. In the year 1841, during a period of six months, he visited 210 localities in which cretinism prevailed to a greater or less extent; and the reports which he furnished to his Government are the basis of the treatise which forms the first volume of these researches. It will be perceived, therefore, that this monograph is of a local character; but it nevertheless contains a large amount of information respecting the history, causes, and treatment, of a disease which is but very imperfectly understood.

To give a wider scope to the subject, and to compare the observations made on this disease in one small part of Europe with those observed elsewhere, Dr. Maffei undertook to explore the regions of the northern Alps, with their northern and southern slopes,—the entire basin of the Salza, and the sources of the Ens, Muhr, and Donau rivers. Independently of the topographical descriptions of the localities where cretinism abounds, Dr. Maffei enters upon the moral and physical condition of the inhabitants, more especially of the class of Cretins, in relation to which, he traces out the various grades of the disease, the influence of age and hereditary taint,—as well as the peculiarities of acquired and congenital cretinism. The author admits with regret that he was compelled to abridge the section on treatment for want of space. It would be out of our power to give any idea of the contents of these volumes in the short space which we can devote to critical notices. It may suffice to state, that those who take an interest in this remarkable disease, affecting as it does both mind and body, will here find a large amount of useful medical and statistical information. The publication of such monographs in Germany shows how much attention is paid in that country to the cultivation of scientific medicine. An elaborate treatise of this kind upon a subject which does not fall within the common routine of practice would, we fear, find no circulation in England!

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### CASE OF SPONTANEOUS AMPUTATION OF FŒTAL LIMBS.

At a late meeting of the Dublin Pathological Society, Dr. Beatty exhibited a preparation which illustrated the opinions of Dr. Montgomery as to the cause of the occasional amputation of the limbs of the fœtus in utero. The specimen was that of a fœtus in the fourth month, round the left arm of which might be observed a deep groove, evidently approximating to a complete separation of the extremity. In this groove had been situated, at the time of the expulsion of the fœtus, a coil of the funis, which had acted as a ligature; and it was extremely probable that the constriction thus produced had occasioned the groove, and, if continued a short time longer, would have completed the amputation of the limb.

*** We have no doubt that the death of the fœtus was occasioned, in this instance, by the arrest of the circulation through the vessels of the funis at the point where it was coiled around the limb. This accident has been observed in other cases.

# Proceedings of Societies.

## SOUTH LONDON MEDICAL SOCIETY.

April 30, 1846.

EDWARD COCK, ESQ., IN THE CHAIR.

Dr. TODD related the following case of Hysteria :—

S. P., aged 22, a native of Hertfordshire, a pale, thin person, with a hectic flush on each cheek, and an eminently hysterical countenance, was admitted into King's College Hospital, September 25, 1845. Her catamenia appeared at the age of 17, and again recurred after an interval of eighteen months. Two years previously she had been accustomed to periodical, and apparently vicarious discharges of blood from the stomach, which also occurred during the interval between the first and second catamenial flow. The catamenia appeared again a third time, when, being attacked with hooping cough, she kept her bed in a state of extreme debility for fifteen weeks, during which time they did not return, and on their reappearance occurred only at long intervals, and scantily. Up to this time she had never suffered from syncope, nor had a paroxysm of hysteria; when, last December, she was suddenly seized with severe spasms about the region of the neck of the bladder, and swelling of the pudenda; retention of urine also took place, which was relieved by catheterism and hip baths, since which time the attacks of spasm and retention of urine have been frequent. Ten weeks since she suffered from an attack of vomiting, immediately after which her breathing became much accelerated. On admission, her respirations varied from 90 to 120 in a minute, the pulse not exceeding 100 to 120: after every twentieth respiration a slight pause ensued. From the extreme rapidity and brevity of each act of respiration, the respiratory murmurs could not be heard distinctly, but no abnormal condition could be detected by auscultation or percussion. During sleep, which was short, the respirations fell to 18, and the pulse to 60; and immediately on awaking the pulse rose to 80, and the respirations also to 80, afterwards becoming more frequent. An important point in reference to diagnosis was, that she never suffered from true *dyspnœa*. Her countenance did not indicate suffering, her venous circulation was not retarded, and there was no forcible action of the respiratory muscles—each inspiration being extremely short, and effected by the diaphragm. For six days after admission her respiration continued at 120 (and on one occasion was 140), except during sleep, always becoming accelerated by mental exertion. At first she derived benefit from the free evacuation of the large intestines by an enema of turpentine and assafœtida, and two days after passed water voluntarily, the first time for many weeks. The dash of cold water applied when in the hip bath alone appeared to make any impression on the breathing. The use of the catheter was prohibited. After the first cold dash her breathing fell to 28, from which time she began to improve. Her breathing for some days ranged from 28 to 40, varying each day, and never rose higher than 40, although she suffered from a cold, and ulcerated throat. The rest of the treatment consisted in tonics, good diet, and purgatives. On October 28 the breathing rose to 60 in a minute, accompanied with other hysterical symptoms, as aphonia, tremor of the eyelids, &c.; this was at the catamenial period, and she was suffering from pain in the uterine region, and headache. The catamenial flow was encouraged, after which time she improved steadily; and, on December 20, returned into the country, and has since been able to enter into service.

The author remarked, first, on the remarkable cessation of the quick breathing during sleep; a fact identical with what takes place in chorea, in which the convulsive movements are instantly relaxed when sleep takes possession of the brain.

2ndly.—On the value of an invigorating and tonic plan of treatment; as in all these cases the secretions are deficient or faulty, especially the uterine and digestive. He also dwelt especially on the necessity of attending to the habits of the patient, and trusted more to a system of discipline than one of mere drugs. Valerian, ammonia, assafœtida, and turpentine—all of which tended to a similar object—namely, stimulation of the nervous system, were those alone in which he had any confidence; and, after the severe stage of the disease, quinine, iron, zinc, or the vegetable tonics, especially the chirayita, were of benefit: all, however, were insignificant when compared with moral and physical discipline, the shower-bath, cold dash, good diet, and exercise.

He was opposed to general or local bleeding, being of opinion that the local pains so frequently occurring in hysterical persons, although benefitted for a time by a few leeches, speedily return, and in an aggravated character. Purging or moderate sweating, which might eliminate morbid matters from the circulation, were valuable adjuncts to the treatment, when kept within due bounds.

In reply to a question of Dr. Lever as to the cause of the swelling of the pudendum, he could not say, unless it was occasioned by some local application.

Mr. Hilton inquired Dr. Todd's opinion of the cause of the excitement of the respiration; adverting also to the exhibition of stimulants in this excited state of the nervous system.

Dr. Todd replied, he did not consider it an excited state of the system in the strict sense of the word; for although the respiration was quick, there was no abnormal condition of the respiratory functions, or of the nervous centres which supplied them: his views being, that, on a post-mortem examination, no lesion of structure would have been discoverable, and the symptoms were induced by an unnatural nutrition of the nervous centres from a deteriorated condition of the blood; it did not consist in an exaltation, being only an acceleration of action, with a diminution of power, and want of due regulation (as instanced in delirium), and was better treated by stimulating than depressing remedies.

Mr. Waterworth inquired how long the aphonia had lasted? and if it, together with the quick breathing, existed at all times when the patient was not in his (Dr. Todd's) presence? He objected to the exhibition of steel and allowing good diet, preferring a vegetable diet; he also inquired if Dr. Todd had ever witnessed a case of hysteria followed by organic lesion?

Dr. Todd replied, that the aphonia existed along time, together with the acceleration of breathing; that she was carefully watched, and that it was present on all occasions, except during sleep. He had never put an hysterical patient exclusively on a vegetable diet, his rule being to consult the powers of the system; he thought, however, many cases might do well on a vegetable diet. He had never seen organic lesion connected with hysteria. In answer to Mr. Cock, he stated that the cold dash appeared only to affect the respiratory system, the immediate effect being on the nervous centres.

Mr. Waterworth, in a case very similar to the one narrated, had found much benefit from saline purges. In reply to Dr. Munk, he stated he had not tried the vegetable diet in his case.

Dr. Lever agreed as to the improper use of the catheter; and strongly deprecated the custom of having recourse to vaginal examinations in single females, as was often done when the catamenia were not performed quite normally. When other remedies failed, the turpentine enema, and topical application of cold water, would often succeed in obtaining voluntary evacuation of the bladder. In reference to organic disease, he remarked, that in young women hysterical symptoms often coexist with ovarian disease.

Mr. Waterworth alluded to hysteria being kept up by mal-practices, and inquired whether the subjects of hysteria are not generally of low intellectual powers.

Dr. Munk inquired the class of cases benefitted by valerian or by assafœtida. He considered assafœtida and the pil. galbani comp. useful when the large intestines were disordered, as shown by the pain low down in the left side.

Dr. Todd, in reply, was of opinion that many very aggravated cases of hysteria occurred without any mal-practice; neither he nor Dr. Lever had remarked a low state of the intellectual powers in such cases. With regard to the remedies, ammonia and turpentine were perhaps the most useful, or ammonia and assafœtida combined, as in the spiritus ammonia fœtidus.

Dr. Lever remarked, that valerian often failed, owing to the bad quality of the drug: the valerianate of zinc was very serviceable.

Dr. Todd alluded to pain in the left side, just under the breast, and simulating pleurisy; and in almost all cases where this pain existed he had found leucorrhœa present. It was relieved by pressure, and was sympathetic, depending on reflected irritation from the uterus and ovary.

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## ACADEMY OF SCIENCES, PARIS.

### *On the Process of Digestion and Nutrition in Herbivorous and Carnivorous Animals.* By M. Bernard.

The following is an extract from a Memoir lately presented by M. Bernard to the Parisian Academy of Sciences, relating to the differences presented by the phenomena of digestion and nutrition in herbivorous and carnivorous animals.

The digestive apparatus presents some remarkable and well-known peculiarities in carnivorous and herbivorous animals. It has appeared to me important, in a physiological point of view, to examine whether the anatomical differences in these two classes of animals entail any important modifications in the phenomena of digestion and nutrition presented by them. The following are some original results to which the investigation has conducted me.

In the first place I may observe, that the principal differences which we find in herbivorous and carnivorous animals, during the act of digestion and of assimilation, are relative to the chyme, the chyle, and the urine. Thus, in a considerable number of dogs fed exclusively on animal food, raw or cooked, and killed while the process of digestion was going on, I have invariably found the chyme acid in the small intestines, the chyle opaque, very homogeneous, and of a milk-white colour; the urine clear, of an amber colour, and having a decidedly acid reaction. On the

other hand, in a number of rabbits fed exclusively on vegetable diet (consisting of grass or carrots), and examined under similar circumstances, I have always found the chyme alkaline in the small intestines, the chyle clear, like lymph, and scarcely presenting a slight opaline tint in the thoracic duct; the urine troubled, whitish, and possessed of a highly alkaline reaction.

Secondly, I would observe that the above-mentioned differences in the chyme, chyle, and urine of herbivora and carnivora, may be shewn not to depend upon any difference in organization in these animals. Thus, I have taken two dogs and two large rabbits, at a time when the process of digestion was being actively carried on, and when their urine consequently presented the distinctive characters above mentioned; I have kept the animals almost without food, and, at the end of thirty-six or thirty-eight hours, found that the well-marked differences which previously existed between the urine of the dogs and that of the rabbits, had entirely disappeared, and that the urine of all four animals was clear, amber-coloured, and very acid. This experiment, repeated many times, and always with the same result, proves clearly that, when not under the influence of food, the urine presents originally the same reaction and the same appearance in herbivorous and carnivorous animals.

But in order to convince myself that the modifications which occur in the urine of rabbits during digestion depend upon the nature of the food which they digest, and not upon any special manner in which, as herbivorous animals, they assimilate their aliment, I changed the food of the animals in the experiment, giving to rabbits the food of the dogs (consisting of cooked beef), and to dogs a kind of food analogous to that of rabbits—namely, boiled potatoes, mixed with a little boiled and mashed carrots. The rabbits ate their beef readily, consuming from 100 to 120 grammes daily. The effect of this change of food was to produce a corresponding change in the urine; the rabbits passing clear amber-coloured and acid urine, whilst that which the dogs passed was troubled (louches), white, and alkaline. Having killed these animals during the process of digestion, I found that in the rabbits the chyme was acid in the small intestines, the chyle opake and of a milk-white colour; whilst in the dogs, on the contrary, the chyme was alkaline in the small intestines, and the chyle clear, with barely an opaline tint in the thoracic duct. We see, therefore, that the changes which had occurred in the composition of the urine of these animals were allied to the corresponding modifications that had taken place in the chyme and the chyle.

From these facts it seems to me legitimate to conclude that the actual and well-known differences which exist in the alimentary apparatus of herbivorous and carnivorous animals, has only relation to the mechanical part of the digestive function. If it be thought, as it may reasonably, that the special form of the organs of mastication, the number and capacity of the stomachal cavities, the length of the intestines, &c. render herbivorous animals more adapted to the division and attenuation of their food, it must also be acknowledged that beyond the stomach these differences disappear, since experiments shew that the chemical part of digestion in herbivora and carnivora does not vary—so far, at least, as concerns the intestinal fluids, which always act in the same manner towards the same alimentary principles, whether the digestive phenomenon be accomplished in the intestine of a dog or in that of a rabbit. Assimilation in the blood is effected in an equally identical manner, and the alkaline reaction of the urine furnishes us with the proof, in all animals, of the assimilation of non-azotised substances. Instead, therefore, of saying that troubled and alkaline urines are peculiar to herbivorous animals, it is more correct to say that they result from the assimilation of non-azotised principles of food.

Thirdly, There exists a constant relation between the nature of the chyme and chyle and the reaction of the urine; from which fact physiology may derive very important indications. The relation between these products of digestion and assimilation are so exact and so constant, that, knowing the condition of one of the three, that of the others may be fairly inferred. Now, since the urine is always accessible, it furnishes the means of diagnosticating the condition of the other two. I hope soon to be able to offer to the Academy some further interesting information derived from this fact; at present I would only observe, that, without even entering into the examination of the chemical composition of the urine, but simply by the inspection of this fluid and by its reaction, we may resolve many highly interesting physiological questions in connexion with the phenomena of digestion and nutrition. I will mention two examples of this kind, which have appeared to me most striking:—1. If we take two animals (dogs or rabbits) whilst fasting, and having their urine clear and acid, and inject into the circulation of one a solution of cane-sugar, into that of the other a solution of grape-sugar, we observe in a very short time that the urine of the latter animal has become turbid and alkaline, whilst that of the former has remained unchanged both as to aspect and to reaction. This fact is easy of inter-

pretation: an alkaline reaction (a sign of the digestion of non-azotised substances) is manifested in the urine after the injection of grape-sugar, because this substance is assimilated at once in the blood, whilst cane-sugar is not so, and can only be assimilated after having been exposed to the action of the stomach, as I have elsewhere proved. This remarkable physiological difference between the two kinds of sugar, known to most chemists, is established beyond doubt by the difference of their action on the urine. 2. Many physiologists still suppose that division of the eighth pair of cerebral nerves does not prevent the process of digestion from going on. The incorrectness of this supposition is shown by the following experiment:—If we give a meal of carrots to two rabbits which have been kept fasting for thirty-six hours, and having their urine consequently clear and acid, we shall find the urine by degrees change its character, and become at the end of two hours, or two hours and a half, troubled and alkaline. If now we divide both nervi vagi in one of these animals, digestion is at once stopped, as is proved by the circumstance of the urine resuming, in a very few moments, the character which it had during fasting, becoming clear and acid, whilst in the animal whose nervi vagi were left undivided, the urine remains turbid and alkaline during the whole time that digestion lasts, which is eighteen or twenty hours at the least. This experiment may be performed in various ways: if we wait till the process of digestion is in full activity and then divide the nerves, the process ceases at once; if we divide them immediately after a meal, the process does not commence; the result in either case proves the influence of the nervi vagi on digestion, inasmuch as the division of these nerves at once and completely stops the process.—*Comptes Rendus*, Mars 23, 1846.

## WESTERN MEDICAL AND SURGICAL SOCIETY.

Friday, May 1st.

SIR JAMES CLARK, BART. in the Chair.

THIS Society, which has been lately formed, and consists of nearly all the medical men practising in Brompton, Fulham, and Chelsea, and the most western parts of London, held their first meeting at their rooms in Cadogan Place.

The President announced that the spacious room in which they had that night met, as also the adjoining room, fitted up with book-shelves, had been engaged for the Society, and trusted they would, from their convenience, meet with the approbation of the members in general; and that from the present day all the medical periodicals and journals would be placed upon the tables for daily perusal by the members.

A list of donations was then read over by the Secretary, Mr. A. B. Barnes, and the names of several members were entered.

Dr. CHAMBERS presented to the notice of the Society, the heart of a boy, between nine and ten years of age, who had laboured from his birth under the usual symptoms of morbus cæruleus, and had died suddenly. There was a communication existing between the right and left ventricles through the septum, large enough to admit of the little finger being readily passed through it; the ductus arteriosus was complete, and but very slight traces of the pulmonary artery were to be found, so much so as to have excited a doubt in the opinion of many members as to whether it had existed at all.

Dr. CHAMBERS also presented a specimen of diseased lung, removed from a patient who had died from slow fever, the man having led a very intemperate life.

An animated discussion, chiefly of a practical nature, was maintained for two hours, upon these cases, and on the causes of fever, especial reference being made to the pest which it is probable this country will unfortunately be speedily visited with. The speakers were, Mr. Dickenson, Dr. W. Pettigrew, Dr. Sinnot, Dr. Cahill, Mr. Seaton, Mr. Muller, Mr. Barnes, Mr. Keen, the President, and many other gentlemen.

The President announced that the next meeting would take place on the first Friday in June, and that Dr. Mantell would then read a paper upon the Microscope, as applied to medicine and the collateral sciences.

## MEDICAL SOCIETY OF LONDON.

April 27th, 1846.

MR. DENDY, PRESIDENT.

*Stammering.*

MR. BISHOP presented the patient who was shewn to the Society a few weeks since, affected with stammering of a severe charucter, and who had been under treatment since that time. The improvement in the powers of articulation was very marked and satisfactory. Mr. Bishop stated that, under ordinary circumstances, the young gentleman could read fluently, and could articulate any words he was required to do, but that under the excitement natural to his reading and speaking before the members of the Society, who were strangers to him, some allowance should be made if he did not articulate quite so readily and distinctly as usual *.

* We have heard this patient read in private, and he does not stammer in any degree.—REPORTER OF THE GAZETTE.

Dr. Golding Bird congratulated Mr. Bishop on the progress which his patient had made, and thought that it was a satisfactory proof of the correctness of the acoustic principles contained in Mr. Bishop's paper. He mentioned a case, in further illustration of these principles, of the causes of aphonia. The patient was a gentleman who had very nearly lost his voice from relaxation of the soft parts of the pharynx and fauces. Under the care of Mr. Bishop he had acquired a considerable volume of tone, but of a different pitch and quality, and he (Dr. Golding Bird) was gratified to find that so much good had resulted by the application of acoustic principles to the dissonance between the pitch of the glottis and soft parts, in relieving these cases of abnormal action of the vocal apparatus.

Mr. Bransby Cooper thought that the position of the tongue and the action of the muscles had greater influence on the quantity of tone, than the relaxation of the soft parts, on the hypothesis of Mr. Bishop; and that the difficulty of articulation depended on the circumstance, that the attempt to speak resulted from its being made during the act of inspiration instead of expiration; and that the muscles of the epiglottis had a greater influence in the production of loud tones than the adjustment of the soft parts to the pitch of the glottis.

Mr. Bishop differed from Mr. Cooper, and stated that the actions of the glottis in the production of sound might be performed independently of the epiglottis.

Dr. Chowne inquired if there were any case in which affections of the glottis coming on suddenly did influence the intensity of the voice.

Mr. Bishop said that the epiglottis had been cut away without influencing the voice. In answer to another question, as to what muscles were concerned, and what influence they exercised on stammering, he said that these muscles depended on the parts called into action—that was, whether the defects occurred on the articulation of letters, or words beginning with or containing mutes, gutturals, liquids, &c. He considered that the treatment of these cases had been too long neglected by the profession, and the result was, that empirics or phylologists occupied the ground which more properly belonged to medical men.

Mr. Hilton was of opinion that the epiglottis and tongue had some influence on the tension of the inferior vocal chords, through their connexion with the arytenoid cartilages.

In answer to a question, Mr. Bishop replied that he employed no other mode of treatment in these cases than that fully explained in his papers.

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CONTRACTION OF THE PREPUCE.

Dr. Golding Bird alluded to a case occasionally occurring in practice, but he believed not mentioned in any printed work. Last Friday week, among the out-patients at Guy's Hospital, was a little child, seven or eight weeks old, lying in a state apparently comatose. The mother stated that the child had been heavy and stupid ever since its birth, the last few days more particularly so. It fell into a lifeless state immediately after sucking from the bottle from which it was fed. The first suspicion on his mind was, that the child had taken an opiate, but this was denied by the mother, and he believed her. On opening the eyelids, the pupils were observed to act lazily, and they contracted feebly. No blow or any kind of injury had been received. If not the result of an opiate, on what did the symptoms depend? The head was not large enough to raise the suspicion of congenital hydrocephalus; nor had any symptom been presented of the acute form of that disease. On inquiring if the child passed water, this answer led to an examination of the prepuce, which was found to be elongated, and had an aperture only of the size of a pin-hole, like a puncture in the intestine. The urine was dribbling out; it was evident that the child had never completely emptied the bladder. Mr. Hilton slit up the prepuce, and all symptoms were immediately relieved, and soon entirely removed. Dr. Bird referred to a case which he had related to the Society some years since, — and which was reported in the Lancet at the time,—of a child who fell a victim to a malformation of this kind; and after death the bladder and ureter were found like those of a man who had long suffered from stricture.

Mr. Linnecar had lately attended a gentleman with gonorrhœa, who had only a pin-like opening in the prepuce, the meatus being, however, of the natural size. This gentleman was always three-quarters of an hour in evacuating his bladder. During the efforts of micturition the prepuce filled up like an apple.

Mr. Hilton had seen many cases similar to the one mentioned by Dr. Bird. The greatest benefit resulted from slitting up the prepuce. In this case the benefit was very remarkable, a partial paralysis of the left side, under which the little patient laboured, being quite removed in twenty-four hours.

Mr. Bransby Cooper said, that it was a remark of the late Sir Astley Cooper, that it was a matter of great importance to open the prepuce in these cases of obstructed micturition; for every case of cancer which had come under the notice of that distinguished surgeon had been associated with the condition of prepuce alluded to. Sir Astley

preferred circumcision of the prepuce to slitting it up. The fresh accumulations behind the prepuce set up inflammatory action, which being long continued, was liable to lead to the production of cancer.

## Medical Trials and Inquests.

NORTH WALES CIRCUIT.

Chester, April 5th.

*Charge of attempting to Poison by Red Precipitate (Nitric Oxide of Mercury).*

Cases of attempting to poison by red precipitate are so rare, that we have here drawn up from the Times report the following abstract of a trial which has lately taken place.

Mary Evans was charged with the attempt to murder her infant, by the administration of a quantity of red oxide of mercury. The infant was produced in Court, and appeared to be about six months old.

The Attorney-General stated the facts of the case to the jury, and the following witnesses were called :—

Mary Cheetham.—I am the wife of John Cheetham, and live at Birkenhead; I did not know the prisoner until she brought an infant child to me in November last, and asked me to nurse it. I agreed to do so, and she said the child was five weeks old. I had it two days short of a fortnight, when she came to me while I was at breakfast, and asked me to go to breakfast with her, and bring the child with me to the house where she was in service. She had called a day or two before to see the child, and when she gave it back to me, it seemed to be in a fit. I went with her to the house, and she gave me and the child some gin. She then said she had some new milk in the back kitchen, which I might take home with me. She took the child aside, and in a few moments I heard it gurgling, as if swallowing something. She soon after brought the child, and put it on my knee. I and the child then went home; and in going over the brick-fields it began to be sick. I looked at the child, and caught a portion of the vomit in my hand; it seemed to be liquid, and of a reddish colour. I then went to the first house I came to, Margaret Wright's, of Wood-street. We had some talk about the child, and then both went to Mr. Broster, the druggist's. We showed him the child, and he was just going to give it a vomit, when it threw up on the floor. The vomit was still of a reddish colour. A policeman was then sent for, and I and the policeman went to the house where the prisoner lived. I spoke to the prisoner first, and said, "Mary, whatever have you been doing to your little child? you have given it something to make it sick;" she said, "No, I have not given it anything." The policeman and I followed her, and when she got into the back kitchen, I saw her draw something off the sink stone and put it behind her, and the policeman took it out of her hand. It was red stuff in a cup. When the policeman came she told me to take it to the druggist's, and said she had only given it a spoonful. The child never had any fits. It was generally poorly while it was with me.

Thomas Broster.—I am a druggist in Birkenhead. On the 3d of December last, about half-past 11 in the morning, the last witness brought a child to me; there was a stain on the child's frock, and she asked me if it was poison. She said the child had been very sick, and while I was talking to her it began to vomit; there was a red substance in the vomit mixed with other matters from the stomach; seeing this I gave the child an emetic, and suspecting that poison had been administered, I sent for a policeman. The red substance which I saw in the vomit on the floor I picked out of it, and kept it in my posses sion till the 12th of December, when I gave it to Dr. Brett.

Thomas Rouke.—I am one of the Birkenhead police, and on the 3d of September was sent for to Mr. Broster's shop; from thence I went to where the prisoner lived with Mrs. Cheetham. I knocked at the door, and asked her if she had been giving anything to her child; she said she had not; I then told her I wanted to go into the kitchen; she went to open a door, and I followed her. On a table in the back kitchen there were some mugs. Cheetham then called my attention to something the prisoner had removed from the table. I took hold of her hand, and found in it the cup and spoon I now produce. The dried stuff in it was then liquid. On our way to the police-office I asked her where she had got the stuff in the cup, and she said from Mr. Le French's. I shewed the cup to Dr. Brett, who examined it.

James A. Bell.—I was an assistant in Mr. Le French's shop at the time of this occurrence. A few days before the prisoner was taken into custody, she came into the shop and asked for a pennyworth of white precipitate. I told her red would do equally well, and gave it to her. It was labelled with the words, "Beware of poison." I thought it was to be used for the destruction of lice.

Dr. Vaughan.—I am a physician at Birkenhead. I was sent for to the police-office on the 3d December. I saw there Mary Cheetham and the child; the latter was excessively ill. I gave it an emetic,

and it immediately brought up some red oxide of mercury, which is a deadly poison. I afterwards saw the child the same day at its own house, and it appeared to be dying; its life was in danger for a week. Red precipitate is stronger than white; the effects of it would be immediate. Never saw a child who had taken red oxide before. We never prescribe it. Cross-examined.—The effects of white precipitate would not be immediate.

Dr. Brett.—I am a lecturer on chemistry at Liverpool; the cup now produced was brought to me by a policeman, and I analysed the contents; I found in it the nitric oxide of mercury in a pure state, commonly called red precipitate. I also analysed a portion from a paper brought to me by Mr. Broster, and found it was red oxide.

This was the case for the prosecution.

The defence made was of a purely technical nature in relation to an alleged defect in the indictment. There was no attempt to rebut the evidence in relation to the question of poisoning.

The JUDGE summed up the case to the jury with great minuteness, and after going through the evidence said there were two questions for their consideration; first, had there been an administration of poison to the child; and secondly, had the poison been administered by the prisoner now at the bar, with intent to murder it.

The jury found the prisoner *Guilty* of the felonious administering.

Judgment of death was then ordered to be recorded against her.

REMARKS.—The evidence in the above case not only clearly established the nature of the poison, but that the prisoner had administered it. If Dr. Vaughan's evidence be correctly reported, we must object to it in several particulars. We are at a loss to know what authority he had for stating that red precipitate is stronger than white; and that the former acts immediately, while the latter does not. No such differences as these between the two compounds have ever been remarked by any toxicologist, so far as we are aware; and when the witness admitted that red oxide was never prescribed, and that he had never before seen a child who had taken it, it is clear that his statement could not have been derived from personal experience. It also appears to us to be incorrect to state, that red oxide of mercury is a *deadly* poison. The fact that a child less than two months old should have swallowed, according to the admission of the mother, a teaspoonful of this substance, or even one-fourth of this quantity, and recovered from the effects, is a proof that the term deadly cannot be properly applied to it. At any rate, there is not a poison to which this deadly might not be applied with equal propriety.

The trial furnishes another illustration of the very easy way in which poisons may be purchased at the shops of druggists. A pennyworth of white precipitate is asked for by a poor ignorant woman; she is told that *red* will do equally well; and the druggist's assistant chooses to *think* that the poison was to be used for the destruction of lice—not to *suspect* that it might be employed, as such substances thus procured are in nine cases out of ten, for an attempt upon human life. The labelling of a substance, "Beware of poison," can answer no purpose whatever, when the purchaser applies for it only on account of its poisonous properties, and for an unlawful purpose; and yet this appears to be the only salvo for the conscience of the vender, who flatters himself he has thereby done all that he can to prevent an improper use of the substance.

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OXFORD CIRCUIT.

Stafford, March 23, 1846.

CROWN COURT.

Before MR. BARON PLATT.

*Trial for Alleged Malapraxis in Midwifery.—Treatment of cases of Placenta Prævia.*

MR. DICKENSON, a medical practitioner of many years' experience, and in extensive practice, residing at Bilston, was indicted for the manslaughter of a Mrs. Hickman, the wife of a respectable farmer of the above place, whose death, it was alleged, he had occasioned by want of due skill and care at the time of her confinement.

Mr. Greaves and Mr. Huddleston conducted the prosecution; Mr. Serjeant Allen and Mr. Yardley were retained for the prisoner.

From the evidence it appeared that the unfortunate deceased, a young woman in the prime of life, was somewhat unexpectedly seized with labour pains, whereupon she was supported to her room, and without being undressed was laid upon a bed. A Mrs. Bakers, an old midwife, was sent for, who speedily arrived, and assisted at the birth of a child, which almost immediately took place, followed by a considerable flow of blood from the uterus. In order to stop the discharge, the old woman applied cold wet cloths to the abdomen of the patient, and thus, for a time, caused the hemorrhage to cease; but as several symptoms manifested themselves which alarmed her, she despatched a messenger for Mr. Dickenson (the prisoner), who resided about a mile and a half from the spot, and who arrived without any delay. Upon his entering the room, the quantity of blood which the poor woman had lost was pointed out to him, and he proceeded as is usual in

such cases, to ascertain the position of the placenta, which owing to the contracted state of the os uteri had not yet appeared, although the umbilical cord upon the birth of the infant was duly severed and tied. After some manual exploration, Mr. Dickenson succeeded in withdrawing from the vagina a good deal of coagulated blood and membrane, together with which he maintained that the greater part, if not all, of the placenta had come away. On the arrival, however, of Mr. Best, another medical man, whose services had also been put in requisition, he was shown the vessel containing the above discharge, and after examining it, he said to Mr. Dickenson, "You do not call that the after-birth, do you?" Mr. Dickenson replied, "Yes, it is." Mr. Best rejoined, "Now I will show you the after-birth." Then throwing off his coat and turning up his shirt sleeve, he almost immediately brought into view a sanguineous mass, observing, "There is the after-birth." At the same moment, Mrs. Hickman, who had evidently been for some time previously in a sinking state, her forehead covered with cold perspiration, and her pulse indicating great debility, uttered a loud shriek, as if the operation she had undergone had occasioned considerable pain. A little more than an hour after this she expired.

The witness, Mr. Best, underwent a severe cross-examination by Mr. Serjeant Allen. He stated that he had practised at Bilston for 30 years as a surgeon and accoucheur, but he was not a member of the Royal College of Surgeons. He admitted that the prisoner had been in the same profession as himself for upwards of 20 years, and that his father and two brothers were also in the medical profession.

In order, however, to prove that his client had pursued a course of treatment towards the deceased, which was not only warranted, but directed by some of the ablest writers on the obstetric art, the learned serjeant quoted the following passage from page 368 of Dr. Denman's book on that subject:—"If there have been a hæmorrhage so profuse as to occasion danger, and the common consequences of loss of blood, as fainting and the like, have already followed, the placenta ought not then to be extracted, nor the patient disturbed; nor should any change be made until she be somewhat revived from her extreme debility, as the danger would thereby be increased, and the patient die during, or immediately after the operation, as I have seen and known several times." Mr. Serjeant Allen then proceeded to inquire of the witness whether he coincided with the high authority above quoted, to which he replied that he did. He was then asked how, supposing Dr. Denman correct in his direction, a distinction could be drawn between the case suggested by him and the one forming the subject of the present inquiry?

The witness was about to reply, when

The learned Judge, after referring to a number of medical works which had been handed to him, observed that it was perfectly clear that the mode of treatment, under circumstances such as those described, was evidently a *vexata quæstio*, and addressing himself to the learned counsel for the prosecution, his Lordship intimated that it was not at all a case for the foundation of criminal proceedings.

After some further conversation, it was agreed that the charge should not be pressed, whereupon

Mr. Baron Platt, turning to the jury, said—The present case is a serious one, as regards both the public and the prisoner. I wish it to be clearly understood, that if a man grossly ignorant of his profession treat a patient, and if during that treatment he be guilty of negligence or of a want of due caution, and if the patient in consequence die, then such a man is undoubtedly guilty of manslaughter; and, moreover, if the practitioner be perfectly competent in every way for the duty he undertakes, and yet so treats a patient that death ensues, he is equally guilty. But if in a particular case there be two modes of treatment, respecting the adoption of either of which men of learning and ability are equally divided, then no man can be said to be "grossly ignorant" in adopting a course which has received the approbation of eminent writers, and which his own judgment sanctions and approves. We should none of us, gentlemen, if that were the case, have the benefit, in a variety of emergencies, of the services of that profession to which we are often so greatly indebted; and the promulgation of the doctrine that medical men are criminally responsible for followng the dictates of their matured judgment, might have the effect of preventing surgeons and others from acting with that confidence and boldness under peculiar circumstances, to which the preservation of life and limb is often due. There are numerous cases in which reliance must be placed upon the judgment of medical men; and if the works of the most able authorities, of those whom I may justly term the sages of the profession, are not to be relied upon, I know not what guidance would be left for the direction of medical practitioners at large. It would, indeed, be a monstrous thing to say that the conduct of the gentleman now under deliberation, evinced either gross ignorance or gross negligence. I can, in fact, hardly leave it to your consideration. It is, indeed, possible, that the manipulation of the witness now in the box (Mr. Best) may have caused the death of the

poor woman. We should, therefore, take the greatest care that we are in the right before we convict a gentleman in Mr. Dickenson's position of such an offence as manslaughter, and brand him with an imputation which may not only injure but ruin his character and his prospects.

The jury almost instantly returned a verdict of *Acquittal*, and Mr. Dickenson quitted the court amid the congratulations of his friends.*

Remarks.—The above case is principally interesting as showing how frail and doubtful is the tenure by which medical men hold their professional reputations. Upon the separate facts of the case it is difficult to argue, the report being even more imperfect in medical details than these reports usually are. We are not informed what was the nature of the alarming symptoms, occurring subsequently to the first cessation of the hæmorrhage, which led the midwife to send for Mr. Dickenson; it is not evident whether hæmorrhage was present at the time when that gentleman "withdrew a good deal of coagulated blood and membrane from the vagina," or whether the whole or greater part of the placenta was, in reality, removed at that time; neither are we informed of what the "sanguineous mass," removed by Mr. Best, actually consisted. We are not aware whether there was hæmorrhage immediately previous or subsequent to the time at which Mr. Best adopted this step, whether any other remedial measures were employed or recommended by Mr. Dickenson, or what were the appearances observed upon inspection after death, for we conclude that an examination of the body was made. It is, therefore, impossible to form any safe conclusion as to whether any culpable neglect of ordinary means of treatment was assignable, or whether the fatal result was attributable to exhaustion or to injuries inflicted during the attempts to extract the placenta. For our own part, we do not think that such a case ought to have become in any way the subject of a judicial inquiry. But, as it was thought proper to adopt this course, it is impossible to understand why the whole weight of the charge was made to rest upon Mr. Dickenson. We perfectly agree with the learned judge, that admitting, for a moment, that a charge of malapraxis could be sustained at all, it was just as probable that the patient's death was as much owing to the manipulations of Mr. Best, as to any culpable neglect on the part of Mr. Dickenson. The jury, from their verdict, appear to have entertained the same opinion. However, as the matter stands at present, the case very clearly illustrates one striking and by no means agreeable fact, namely, that an accoucheur is liable to be tried for manslaughter, in a case where his patient's death was caused, not by any mismanagement of his own, but by the injudicious measures adopted by another medical man who is subsequently called in. This is another rare specimen of the state of medical deontology in England.

* Times report.

## Selections from Journals.

### SURGERY.

#### THE KNEE-JOINT ANCHYLOSED AT A RIGHT ANGLE — RESTORED NEARLY TO A STRAIGHT POSITION BY REMOVAL OF A WEDGE-SHAPED PORTION OF BONE.

Dr. Gordon Buck, of the New York Hospital, has recorded another of those cases, in which an anchylosed and contracted limb has been restored to usefulness, by an ingenious operation. The following comprise the leading details of this highly interesting case.

W. K., a farmer, of healthy and robust constitution, aged 22 years, was admitted Sept. 12th, 1844, to the New York Hospital, with the right knee anchylosed at a right angle in consequence of a violent inflammation and suppuration of the joint, produced by a wound inflicted seven years previous with an axe, that had grazed the bone over the inner condyle. This injury was followed by a confinement of seven months to the house. The limb was immoveable. The condyles of the femur were prominent, and stood in advance of the tuberosity of the tibia with the patella deeply and immoveably imbedded between them. An irregular bony projection was observed over the inner condyle, where an extensive scar marked the situation of the original wound. The tendons in the ham stood out in prominent relief from the limb. The skin and subjacent soft tissues enveloping the joint were supple and healthy. Since his recovery from the effects of the injury, the patient had been free from pain or tenderness in the knee; he had been accustomed to walk with one crutch, though sometimes he dispensed with it, and stooped to accommodate himself to the shortened condition of his limb. The deformed limb was shorter, and in every respect less developed than its fellow.

It was explained to the patient, that, in a few similar cases, an extraordinary operation, consisting in removing a wedge-shaped portion of bone from the femur above the condyles, had been resorted to with favourable results. There being, however, some weighty objections to this operation, it was

proposed to modify it in his case. As the joint itself no longer existed in its normal condition, with secreting articular surfaces, Dr. Bush judged it equally safe to perform a similar operation upon the parts pertaining to the joint, which, to all appearance, were free from disease. The advantages contemplated by this modification were, that more extensive surfaces of contact for bony union would be obtained, and greater strength of limb secured, with less remaining deformity, than even practicable in the operation of Dr. J. Rhea Barton, of Philadelphia, already alluded to. The operation was performed Oct. 12th, 1844, as follows:

*Operation.* — Preparatory to the operation, the tendons of the biceps, semi-tendinosus, semi-membranosus, and gracilis muscles had been divided, five days before, in the usual manner, by two subcutaneous incisions, in doing which the peroneal nerve was unintentionally cut across; this was followed by numbness and pain extending to the foot; the punctures, however, had healed, and no inflammation remained in the ham. The tourniquet being applied to the upper part of the thigh, an incision was made from the outer to the inner condyle, across the middle of the patella, and a second incision from the middle of this, perpendicularly downwards to the tuberosity of the tibia. The included angles of integument were dissected down to a finger's breadth below and parallel with the margin of the articular surface of the tibia. The ligamentum patellæ, and the fibro-ligamentous tissues on either side, were cut through on the same level, to the extent of nearly two-thirds of the circumference of the bone. With the amputating saw, a section of the tibia was made at three-fourths of an inch below the joint anteriorly, and directed with a slight obliquity upwards so as to terminate at the margin of the articular surface posteriorly. Two-thirds of this section was accomplished with the amputating saw. The second section was then commenced through the upper part of the patella, parallel with the first, and on a plane forming an angle with it, less than a right angle, and continued to about the same extent as in the first section with the same saw. The remainder of the section through the tibia, as well as through the condyles, was completed with a metacarpal saw and chisels. The included wedge-sharped portion of bone being removed, it was found the section had not been carried far enough backwards, the posterior portion of the condyles still remaining consolidated with the tibia. To include this, a new section was undertaken, commencing upon the cut surface of the femur, three-fourths of an inch anterior to the angle at which the sections already made met, and directed backwards and upwards in a plane more oblique in reference to the axis of the femur. This new section being removed, the remaining points of connection were ruptured by cautiously flexing the leg on the thigh, after which the irregular prominences were pared away with the bone-forceps. An attempt was now made to extend the leg upon the thigh, when it was found that the bony surfaces could only be brought to within a finger's-breadth of each other anteriorly. The soft parts in the ham being rendered tense, and opposing a great resistance to the extension, the attachments of the ligaments were dissected up posteriorly from the tibia, while the leg was held in a state of extreme flexion, and, in addition to this, a further section of five-eighths of an inch thick was removed from the anterior two-thirds of the femur. The leg could now be extended to the required degree with the bony surfaces in contact at every point, and the soft parts posterior to the joint in such a state of tension as to give steadiness and solidity to the coaptation. The section of the condyles exceeding that of the tibia in its antero-posterior diameter, caused an overlapping in front of about half an inch. The hæmorrhage was very moderate, and only two ligatures were required to small branches given off by the popliteal trunk. The soft parts posterior to the joint, and separating it from the artery, were very little disturbed. The angular flaps of integument being redundant, in the new position of the limb, were pared away to the required extent, and secured in contact by seven sutures. The limb was then placed on an inclined plane with a right angle at the knee, and after the patient was removed to his ward, adhesive straps were applied between the sutures, and a compress of dry lint laid loosely over the whole. The operation exclusive of the dressings occupied 40 minutes, and though very painful, was borne with remarkable fortitude. The subsequent progress of the case was, upon the whole, exceedingly favourable. Some inflammatory action appeared to have commenced in the knee a few days subsequent to the operation, but this was readily subdued by leeching, &c. He continued to suffer for some time from occasional attacks of severe pain in the knee, and twitchings of the muscles of the limb; these causes of suffering were alleviated by anodynes. The patient left his bed the first week in January, with the limb supported in the apparatus that is used for the forcible extension of the knee-joint. At this time, a slight degree of motion in the direction of flexion and extension was still perceptible, but none in a lateral direction. He was soon able to support himself on crutches, and placed his foot on the floor, and after a while left off the apparatus, and only applied a bandage.

As the patient's general health improved, he acquired strength in his limb, so that, for two or three weeks preceding his discharge, he walked about with the aid of a cane only. The difference in the length of the limbs was compensated by a stirrup-shaped frame secured to the sole of his foot by means of an iron plate. The bony union at the knee had become firm without any perceptible motion, and the cicatrix of the skin as well as the subjacent tissues was supple and moveable. The only uneasiness felt from exercising was referred to the calf of the leg and instep. The difference in the length of the limbs was about five inches at the heel, of which not more than one half could be ascribed to the operation; the remainder depending on defective growth in the limb subsequent to the inflammation of the joint. On the 22d of April last, the patient took his discharge to return home to Canada, well pleased with the improved condition of his limb. Three days before leaving the hospital, he walked a distance of two miles with the aid of a cane only, and without pain or unusual fatigue.

The author attributed the painful twitchings of the limb subsequent to the operation in great measure to the division of the peroneal nerve, and the subsequent stretching of its recent cicatrix, together with the general state of tension of all the tissues in the ham produced by the altered position of the limb. This he considers more probable, from the fact that the patient complained of pain along the course of the peroneal nerve, and of twitchings of the posterior muscles of the limb, as more severe than elsewhere.

[Remarks.—We have no doubt that, in similar cases, the operation may be much simplified, and rendered far less severe and protracted, by adopting the precautions of previously ascertaining, with great accuracy, at what angles the oblique sections of the tibial and femoral surfaces of bone should be made to ensure coaptation of the surfaces nearly in a straight line; in such a manner, too, that no projection backwards of the bones should interfere with the vessels and nerves of the popliteal space. It might also be advisable to include an elliptical portion of the integument covering the patella in the first incisions, thus obviating the serious inconvenience of removing portions of the flap at a subsequent stage of the operation.—Ed. Gaz.]

### On the Treatment of a Peculiar Form of Disease of the Prostate Gland.

Mr. W. Colles has contributed some interesting particulars upon this subject, which are chiefly from some notes and cases briefly taken by his late father. There is a description of enlarged prostate in which surgery can render essential benefit to the sufferer, and that by a very simple operation. When we find a patient in advanced life complaining of unusual frequency of micturition, with more than ordinary straining, his urine depositing a good deal of muco-purulent sediment, and possibly a muco-purulent discharge from the urethra, we should make a very careful examination of the state of the prostate. If, under these circumstances, we introduce the finger into the rectum, and find the gland enlarged in either lobe, and upon pressing on one particular spot, we feel the point of the finger sink, as if into a cavity; and particularly if we find this pressure causes the discharge, *per urethram*, of a quantity of this purulent fluid, to the amount varying from a few drops to a tea-spoonful; here we may hope to render an essential service. The operation alluded to is simply that of incising this hollow soft spot, which will generally be found to contain some matter. Mr. Colles has employed the pharyngotome, having previously adjusted the instrument so as to allow the lancet to project only to a length varying from one-eighth to half an inch, according to the apparent thickness of this soft part; the object being to make an opening into this cavity. The operation causes very slight pain indeed. We are guided to the spot where the puncture is to be made, by holding the point of the fore-finger of the left hand gently pressed on the soft part, and introducing the finger on this as a director. In some of these operations there has been incontestible proof that some pus had been contained in the cavity, yet in no instance has the author been able to discover afterwards any trace of matter discharged by stool, so small has been the collection of this fluid; in some of the patients a few drops of blood have passed afterwards through the urethra. In one or two, some urine has passed for a time by the rectum; the quantity, however, was in general very inconsiderable. This occasional watery stool was at once the only proof and inconvenience attending on such cases. The escape of urine gradually ceases in the course of a week or two, never to return. In one case, however, the flow of urine into the rectum was much more troublesome, and to a greater amount; so that, at one time, the author was in dread lest the communication should become permanent, and a fistula formed. Yet, even in this case, an old, sickly, poor man, according to the last report, there has been no discharge of urine per rectum for some time, it having gradually ceased since his leaving the hospital. In one instance only has a hæmorrhage followed this operation, and then it was easily commanded by laying on the orifice a small compress of lint, and

retaining it for some minutes firmly pressed against it by the forefinger introduced into the rectum. The author has employed this operation in some few cases of obstinate gleet, where he had satisfied himself that there was not any stricture in the urethra, and where he felt the cavity in one lobe of the prostate, and pressure on this caused a flow of precisely the same kind of fluid as that which constituted the gleet. He considers the cases most favourable for this operation to be those in which the patient informs us that the discharge of the gleet takes place at intervals, and that he is made aware of the moment of its escape by some peculiar sensation which he then feels. As yet the author's success in this mode of treating obstinate gleet has been uncertain, having failed to effect any change in cases which he thought very favourable for the operation; while, in those which appeared less favourable, his success has been complete. The author has employed this operation in cases of enlarged prostate gland, where nothing like a cavity was to be felt; but, as might be expected, without relief. Its highest praise, he considers, in this form of the disease, is, that it has proved quite innocent. Those cases in which the operation was unsuccessfully performed are then narrated in full.

In the first case, in which the patient was a very old gentleman, the ordinary treatment afforded no relief, even the catheter rather added to his sufferings, and if nothing further had been done, death must soon have terminated his sufferings. Here the operation was followed by a gradual, though rapid, improvement in the symptoms, and this improvement was permanent: he had no return of urinary irritation, though he lived seventeen years after. In the second case the symptoms were still more severe; the patient was still more exhausted by long suffering, and here the relief afforded by the operation was great and sudden, and continued for several years; and on the return of the former bad symptoms a repetition of the operation was followed by the same happy result, as quickly and as perfectly as before.

In the third case, already alluded to, there was reason to apprehend that a fistulous communication had been established between the bladder and prostate; but eventually this perfectly closed; the man's health was much improved, and he was eventually much benefited by the operation. It is suggested that it might be a question whether this operation would not be justifiable in a case of fistula in perineo, arising, as the author believes it sometimes does, from this disease of the prostate, and which had resisted the ordinary methods of cure. — *Dublin Journ. of Med. Science.*

## THERAPEUTICS.

### IPECACUANHA IN EMETIC DOSES, A POWERFUL RESTORATIVE IN CERTAIN CASES OF EXHAUSTION AND SINKING.

BY MR. HIGGINBOTTOM.

In the year 1814, I was first led to see the extraordinary beneficial effects of ipecacuanha, as an emetic, in a female, who was in a sinking state in the last stage of cholera.

The next case which attracted my particular observation, was the utility of ipecacuanha in severe uterine hæmorrhage. I attended the patient three times in labour, in the years 1821, 1823, and 1826, and each time with most severe flooding immediately after the separation of the placenta. I employed the usual remedies, such as the sudden application of cold water to the abdomen, pressure to cause contraction of the uterus, with the administration of opiates, wine, and brandy, which were, at the time, common remedies. These were cases of great anxiety, and I had to remain with my patient several hours before I thought it was safe to leave her.

In her third confinement, I was afraid she would die. After having used all my remedies, and having given her half a pint of brandy, and a pint of port wine, which was of no avail, it occurred to me that, in the former labours in which I had attended her, when I had used the means to check the hæmorrhage, there was no amendment until she had ejected the contents of the stomach. I was then most anxious that vomiting should take place in hope of relief, as she was rapidly sinking; I thought that as vomiting had been so beneficial to her before, I was, in this case, justified in producing it by giving an emetic. I directly gave her a drachm of ipecacuanha: a full vomiting succeeded, and a large quantity of fluid was ejected. I was much struck with the expression of my patient, which I had several times heard before in similar cases, after vomiting. After a deep sigh, she said, "O! I am better! I am better now!" The hæmorrhage ceased directly, and did not return; the symptoms of sinking abated, and the patient appeared in her natural state of body, but very feeble. A little plain gruel was all the nutriment given her, and she recovered gradually from her weak state. I attended the patient three times afterwards: and what is very satisfactory in favour of the secale cornutum, which was about that time becoming more used in this locality, I gave, on every occasion, half a drachm of the powder before the birth of the child, a second such dose after the birth, before the separation of the placenta. This remedy had the desired effect of preventing hæmorrhage, so that I had no further need

of the ipecacuanha, or, indeed, of any other remedy.

Several years ago, I had a patient on whom the secale cornutum had no effect in preventing hæmorrhage, and I gave the ipecacuanha with a favourable result.

For nearly twenty years, I had lost all confidence in the diffusible stimulants, such as wine, brandy, &c. in uterine hæmorrhage, from a conviction that they increase the circulation, and consequently the hæmorrhage. And I find that opinion corroborated by the writings of Drs. Clutterbuck and Ramsbotham.

The utility of ipecacuanha in uterine hæmorrhage has been proved by Dr. Osborn, of Dublin, but I am not aware that he has recommended it in extreme cases of exhaustion or sinking.—*British Amer. Journ. of Med. and Phys. Science*; *and Northern Journ. of Med.*

[Remarks.—We apprehend that, in the closing sentence of the above extract, the author has not made a just distinction of cases: the beneficial effects of nauseating remedies in checking hæmorrhage, and thereby in relieving the exhaustion which the bleeding produces, cannot be questioned. But it is not by any means clearly shown that emetics and nauseants would have any other than an injurious action, in cases where the exhaustion depended upon causes in which hæmorrhage or other excessive discharge had not been present. — Ed. Gaz.]

## SPECIAL PATHOLOGY.

### CASE OF PERITONITIS—ATTACKS OF SHIVERING—INFLAMMATION OF THE VENA PORTÆ — DEATH. REMARKS ON INFLAMMATION OF THE PORTAL VEIN IN GENERAL.

The patient was a man 26 years of age. When admitted into the hospital, he was complaining of a violent pain in the epigastrium; it shifted its locality a little in different positions of the body. Pyrexia, diarrhœa, great thirst, and a high-coloured state of the urine present. The case was regarded as one of peritonitis, and treated accordingly. On the third day, there was a well-marked shivering fit, followed by heat, but not by perspiration. Schoenlein says, that he suspected the commencement of some mischief in the portal system of veins. The rigors returned at irregular intervals; on some days there were several attacks. The treatment consisted in the inunction of mercurial ointment, the application of fomentations, and the internal use of calomel: the patient was suddenly and rather severely salivated. Dr. S. assures us that, in several cases of lesion of the portal system, he has observed decided benefit from the use of saline baths (two pounds of common salt, and one ounce of muriate of lime being added to a usual bath); and he accordingly ordered them for this patient. The icteric and febrile symptoms, however, continued to exist, and indeed gradually became worse. The patient died in the course of about two months.

*Dissection*.—On opening the abdomen, an abscess was found about midway between the umbilicus and the point of the sternum (the seat of the pain during life): it was situated between the layers of the mesocolon. The abscess extended backwards in the direction of the vena-portæ. This vessel was found to be considerably enlarged, and, when laid open, to be filled with pus. The matter extended into its ramifications, the inner membrane of which was observed to be decidedly thickened. The parenchymatous substance of the liver was not affected.

In his comment upon this case, Dr. Schoenlein directs the attention of the reader to that aphorism of Hippocrates, wherein it is said—"Those who suffer with violent fever rarely recover, if a shivering occurs on the sixth day." Our author regards the occurrence of this phenomenon, under such circumstances, to be a probable indication of the commencement of phlebitis somewhere. As to the *symptoms of inflammation of the portal vein*, one of the most constant is (as far as we can well judge from our hitherto limited experience), a heavy oppressive pain about midway between the point of the ensiform cartilage and the umbilicus, and often, it may be, extending backwards in the direction of the spine: it is always increased by firm pressure. The usual signs of the biliary secretion being more or less imperfectly performed are generally present. Occasionally blood is passed with the stools: indeed, Dr. S. is of opinion that the disease of melœna is not unfrequently connected with the lesion which we are now describing. The accompanying fever is usually violent,—the *causus* of the ancient writers. Should the inflammation terminate in the formation of purulent matter, the fever will necessarily assume more of a typhoid, or perhaps of a hectic character. If, in place of pus, plastic lymph is effused into the cavity of the inflamed vessels, the superficial abdominal veins are apt to become very considerably dilated, and the spleen also to be so much distended that, in the course perhaps of a few days, it may be felt outwardly to be excessively enlarged. When this is the case, we may expect to have all the usual symptoms of spleen disease; viz. tendency to syncope, confusion of sight, hæmorrhage from the left nostril (singular precision)! and evacuation or vomiting, and, subsequently,

hæmorrhage from the bowels, which is almost always accompanied with extreme prostration. In one case, which has been described in Schmidt's Journal, (1840), Schoenlein found, upon dissection, all the veins of the portal system quite obliterated. — *Med. Chir. Review: from Schoenlein's Clinical Lectures.*

### M. LEBERT'S RESEARCHES ON THE STATE OF THE KIDNEY IN MORBUS BRIGHTII.

M. LEBERT has restricted his inquiries to three questions: firstly, in what state are the elements of the blood found in the urine; secondly, what is the molecular composition of the granular substance; thirdly, in what parts of the kidney are the granulations deposited? In the commencement of the disease, when the urine has a brownish and slightly reddish tint, many red particles, perfectly intact, are observed, together with a certain quantity of the colouring matter of the blood, in very irregular fragments; in the more advanced stage the pure albumen of the blood is detected. The author adds, "these facts prove that the albumen and colouring matter of the blood do not escape from the renal capillaries by simple exosmose, but, as in inflammation elsewhere, the albuminous nephritis offers at the début, and whilst the afflux of blood is most developed, a real rupture of a certain number of capillaries gorged with blood; and, consequently, a portion of the albumen and colouring matter, as well as the particles, escape from the circulating torrent." It does not, however, appear that the author has actually seen the rupture he describes, so that what is stated is rather an inference than an observed fact. "As to the molecular composition of the renal granulations of Bright, I have found no other elements than very numerous molecular granules, having a diameter varying from 1-1000th to 1-800th of a line, and forming considerable aggregations or globules. It often happens that a certain number of the above granules are grouped together, and at length are surrounded by a cellular envelope, by a process similar to the formation of the large yolk-globules of the hen's egg. I have never been able, after the most cautious observations, to detect these globules in the interior of the capillaries, and I do not believe they are ever formed until their elements have escaped from the capillary vessels by an exosmotic process. Lastly, I have discovered in the globules fatty granules and vesicles, and sometimes in a rather larger proportion." "With respect to the seat of the rest of the granular and albuminous extravasations, I have found it to be most frequently in the uriniferous canals, which become, as it were, artificially injected by the effused matter; at other times the deposit was in the interstitial renal substance, separating the different physiological elements of the kidney from each other." The author quotes an observation of Valentin, published in the Repertorium for 1837, in which it is stated that the cortical canals were found to be filled with a greyish yellow substance. It thus appears that M. Lebert's researches confirm the opinion of those who regard this disease as essentially inflammatory in its type; and although he has, like Dr. Johnson, seen fatty vessels within the tubuli uriniferi, he considers them to be merely a secondary product, resulting from the previous congestion of the renal capillaries.—*Medico-Chirurgical Review*, Jan. 1846.

### DEATH FROM HÆMORRHAGE FROM EXTENSION OF A VENEREAL ULCER OF THE PHARYNX TO THE LINGUAL ARTERY.

AT a recent meeting of the Surgical Society of Ireland, Dr. Geoghegan related the following case, which he had witnessed a short time previously. The patient, a young man, was attacked with frequent vomiting of blood, and, upon careful examination, no disease of the liver, stomach, or lungs could be detected; neither did there appear to be anything wrong in the throat. After a variety of measures had been resorted to ineffectually, the person died, and the autopsy revealed accumulation of blood in the stomach, alimentary canal, and lungs, but no disease; just, however, as the body was about to be stitched up, it occurred to the gentlemen making the examination to look to the throat. In the pharynx, just below the root of the tongue, a venereal ulcer was found which had caused caries of the cornea of the os hyoides, and ulceration of the lingual artery, thus accounting for the fatal hæmorrhage.—*Dublin Med. Press*, April 15th, 1846.

## Correspondence.

### CASE OF LARGE STRANGULATED INGUINAL HERNIA—OPERATION—RECOVERY.

BY THOMAS BOURNE, ESQ.
Surgeon, Bath.

DANIEL ROGERS, of Radstock, æt. 70, formerly a sailor, and who was at the battle of Trafalgar, where he was severely wounded in the head, states, that he has had paralysis of the right side for fourteen years, and been the subject of a large reducible inguinal hernia of the same side for thirty-six years.

On Saturday, April 19th, at 7 P.M. I was sent for to see him, when I found him suffering from all the symptoms of strangulation. I applied the taxis for about a quarter of

an hour, and on this failing, I had him placed in a warm bath, where I employed it again; afterwards a tobacco enema was administered without success. As local vomiting had taken place, and all the symptoms were becoming more aggravated, I urgently advised an operation, to which the patient and his friends soon consented.

At midnight, having made the preliminary arrangements, I commenced by making an incision from the upper part of the swelling, carrying it down to the lower part. Having carefully cut through the coverings, I reached the sac, which I divided above and below, and found a large quantity of thickened omentum adherent to it, requiring considerable force for its separation; this accomplished, I felt for the stricture, which was found to be at the abdominal ring. Having passed my finger to this situation, I divided it with a blunt-pointed bistoury, cutting directly upwards. The bowel had a favourable appearance, and was at once returned. Sutures and plaster were applied to the wound; an opiate was afterwards given, and the patient placed in bed.

Sunday, 19th.—Slept a little during the night. The bowels have been opened twice: he is somewhat feverish.

20th.—Has passed a good night. There is slight tenderness on pressing the abdomen.

To have a dose of castor oil and a saline mixture; low diet.

The bowels have acted rather freely.

21st.—Has had rather a restless night. Face flushed; tongue furred; pulse quick; bowels opened once: no abdominal tenderness.

22d.—Slept well. The wound has been dressed, and looks favourable; there is less fever.

To continue the saline mixture, and low diet.

23d.—There is great enlargement of the scrotum, and the upper part of the wound discharges pus.

One of the sutures to be removed, and a poultice applied to the latter and a spirit lotion to the former. To have a more liberal diet.

24th.—Passed a good night; bowels have been opened; the wound and scrotum look better; appetite improving.

25th.—From this date up to the present period (May 6th, 1846) the symptoms have been of a favourable character. The wound has nearly healed, the bowels have acted regularly, and the appetite continued good.

Remarks.—This case is interesting on account of the very large size of the hernia, which became strangulated in a patient who had been paralysed for fourteen years. The firm and old adhesions of thickened omentum to the sac precluded all hope of relief except by an operation.

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### A CASE OF FUNGUS HÆMATODES.

Sir,—The following case of Fungus Hæmatodes has so many points of resemblance to the one stated by Mr. Jones, of Upper Clapton, in his admirable letter in the London Medical Gazette, of the 16th of May last, that I am induced to send it to you, thinking that "the occasional publication of authentic cases treated according to one or other of the miserable quackeries of the time, could not fail to be in some degree useful."

The patient was evidently sinking from the inroads made on the constitution by the progress of a malignant disease, which rendered the case utterly and irremediably hopeless; yet there was the most unqualified hardihood of assertion with regard to effecting a cure, and the most treacherous hopes held out; in this respect, and in the result, the similarity between the two cases is complete; what they differ in is, "the manner of the doctor," which was never that of "a superior being," nor could any resemblance be traced to a "hero or demigod."

Now, although there may be something very like charlatanry in the pretence to cure incurable diseases, yet, after the decision of an Irish jury in *re* "Duffy,"* one must necessarily be cautious in designating as quackery any practice or advertisement proceeding from a practitioner, who is authorised by law to affix nearly a third part of the alphabet in Roman capitals to his name.

I first saw Miss. R—— on the 27th of October. She was rather a delicate looking girl, of fifteen years of age, but her general health was pretty good. She consulted me on account of a swelling on her left thigh, the exciting cause of which was obscure; she could not say whether it came on after lifting a heavy weight, or whether she had struck it; she had noticed it about two or three weeks. It was situated about five inches above the external condyle of the femur, was the size of half an orange, unattended with throbbing or much uneasiness; from being under the fascia it felt tense: it was at too great a distance from the knee-joint to impede its motion: she walked to my house and back to her own, more than half a mile. The appearance of the common integuments was normal. I merely ordered an Empl. Saponis, and desired her to apply leeches, and a linseed meal poultice if it became more painful. After a time

* London Med. Gazette, p. 476, July 11th, 1845.

she complained of lancinating pains through the tumor, which was evidently much on the increase. Leeches were again applied, and she took some Hydriod. Potassæ, and small doses of opium.

It is allowed by all authorities that the diagnosis in the early stage of this disease is attended with much difficulty; there was one part of the tumor in which it was thought fluctuation could be detected, and a grooved needle was introduced; the discharge of blood and serum, to the amount of some ounces, which follows, afforded temporary relief merely by lessening the tension. The puncture speedily healed. I was not present when this was done.

I continued my attendance for eight weeks, during which time nothing appeared to arrest the rapid growth of the tumor. Its size, which had become enormous, was rendered the more apparent from the great emaciation of her person. The swelling was lobulated, had a spongy elastic feel, was very sensitive; so much so, that the very idea of having it touched alarmed her exceedingly; the cutaneous veins were much enlarged, and from their ramifications over the surface appeared like a coarse blue network spread over it. There were several vesicles on the skin from which oozed a good deal of serous fluid; this at a subsequent period was wrongly reported to be pus discharging from the tumor itself. The pain was agonizing, and nothing but morphine, or some preparation of opium, allayed it. Her pulse was small and rapid, and she had become hectic.

The case was fraught with imminent danger, and no attempt was made to conceal from the friends its expected fatal termination at no very distant period, and I was not alone in this opinion. All the characteristic symptoms of fungus hæmatodes, except those of the last stage, were fully developed, and there was nothing of a cheering nature to be discovered; yet at this moment, a promise of a cure was held out.

It would have been unnatural in the mother not to embrace every opportunity likely to afford relief; but that any professional man could be found who, under all the discouraging circumstances, would undertake to *cure* such a malignant disease by any means, but more especially by merely an external application, appears almost incredible; yet such was the fact.

Mr. ——, immediately after his first interview with the patient, on the 27th of December, went from her house into the fields, and gathered some "poppy dock leaves," (fol. digitalis purpur.) which he told Mrs. R. were to "*cure her daughter.*" He had seen a similar case *cured* by them in the hospitals!

From this moment reports were industriously circulated of many favourable changes having taken place: "the tumor had burst," "pints of matter had been discharged," "the form of the knee could be distinguished," "Miss R. was better, she was recovering."

The buoyancy of hope, and the delusion that was carried on, so deceived the mother, that she rather gave sanction to some of these rumours, which unhappily proved to be false, for the patient in spite of all the good symptoms was sinking daily; yet Mr. ——, on his visit so late as the 9th of January, *pronounced her "better."* In a few minutes after this opinion had been given there was a great alarm, the attendants were seen hurrying out of the house, and running in different directions in search of Mr. ——, who in a short time returned with them. He then looked very grave, and his poor suffering patient died shortly afterwards.

The ulcerative process had been stealthily making its advances, and the parietes of the tumor now actually gave way; the hæmorrhage which followed was fearful; it was accompanied by a fœtid discharge of medullary or cerebriform substance which led to her death in four days.

To bring forward any circumstances of a private nature would be out of place in a journal devoted exclusively to the advancement of medical knowledge, and to those arts and sciences "*quæ prosunt omnibus*;" they shall be kept in abeyance until a court of appeal be established, whose judgment in such matters shall be authoritative, and whose discipline is so stringent as to uphold the respectability of the profession; but the certificate to the registrar, touching the disease and cause of death, is a public document, and as such it is exhibited.

The following is a correct copy.

"*Disease.* — Extensive inflammation and disorganization of the knee-joint.

"*Cause of death.*—Debility, from loss of purulent blood."*

(Signed)
M.R.C.S.L. and L.A.C.

During all the progress of the disease there were never any visible signs of "inflammation," in the usual acceptation of the term, and as "in the disorganization of the knee-joint," it is not improbable that the gradual destruction, and transformation of tissues might have extended to it, but this could only have been ascertained by a post-mortem examination. In Mr. Blenkinsopp's case† "the bone was not implicated; its general structure, and the cancelli, being perfectly healthy."

* Pyohæmia?

† London Med. Gazette, July 18th, 1845.

If the real nature of the disease had been suspected by Mr. ——, he would, by following the instructions given in "the regulations" for registering the correct causes of death according to the "statistical nosology," arranged by Mr. Farr, have designated it "encephaloid cancer."

After death the fœtor was so intolerable that the inmates were obliged to quit the house, and the discharge was considerable after the corpse was laid in the coffin, so that a great part of the body was covered by it, and instead of having a larger coffin made, (which was proposed to the friends), an augur hole was bored in the foot-piece, and the liquid contents drawn off into a wash-tray.

From the commencement of the disease to its fatal termination was the short period of thirteen weeks.—I am, sir,

Your obedient servant,

R. Moyle.

Penzance, May 4th, 1846.

### APPEARANCE OF THE RETINA IN A LIVING PERSON.

Sir,—It is well known that by peculiar management one may see in his own eye the retina and its vessels. If in a dark room you close one eye and hold a candle near the outer canthus of the other, moving it up and down, you will see distinctly, painted as it were upon the darkness, and apparently distant about an inch from the eye, a brown space intersected by black ramified vessels. These it is presumed are branches of the arteria centralis retinæ. Now it has recently been pointed out to me by my brother, Mr. Horace Johnson, that the experiment may be varied in a very instructive manner. Take the polished silver case of a watch, unchased, and hold it about half an inch distant from the eye in the bright sun-shine. You will see on the silver a small round space perfectly bright, and apparently granular. Crossing this space will be seen a number of white vessels; some, however, have a pinkish tinge. I suppose the explanation of the phenomenon is pretty clear. The white granular ground I take to be the illuminated retina, with the projecting loops of its fibrillæ, and the vessels are manifestly branches of the central artery.—I am, sir,

Yours truly,

Walter Johnson.

Guy's Hospital, May 1846.

## Medical Intelligence.

### BRITISH ASSOCIATION.

The sixteenth meeting of the British Association will commence at Southampton, on the 10th of September. A room will be provided for the reception of philosophical apparatus and specimens of natural and artificial products.

### OXFORD EXAMINATION FOR M.B.

It is hereby intimated to all students of medicine who propose to offer themselves as candidates for the degree of Bachelor in that Faculty, that the day appointed for the next examination is Tuesday, June 16th. Candidates are requested to transmit to the Clinical Professor of Medicine the usual certificates of their having complied with the requisitions of the statute Tit. VI. sec. 5. §§ 1. 3., on or before Monday, June 1st.

J. A. Ogle, Med. Prof. Clin.

### THE YELLOW FEVER IN SPAIN.

Letters from Barcelona state that a case of yellow fever had manifested itself in that city shortly after the arrival of a vessel from the Cape de Verde Islands, where the epidemy has of late exercised great ravages. M. de Lesseps, the French Consul, immediately apprized his government of the occurrence.

### BRITISH HOSPITAL AT DAMASCUS.

This hospital was founded in 1840, by Dr. J. Thompson, for the gratuitous relief of persons of all nations resident in Syria. It is the only source of medical aid within the entire limits of those countries, containing a population of two millions. It is entirely dependent for its support on the contributions of a few charitable individuals in London, and the pecuniary as well as professional assistance of its president, Dr. Thompson, himself. It is satisfactory to learn that the institution has been very successful, and is productive of much good.—*Athenæum.*

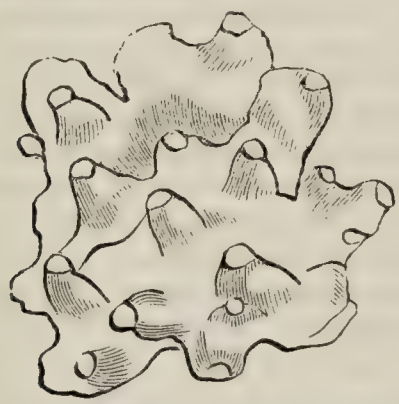
### MANNA FROM ASIA MINOR.

At a late meeting of the members of the Royal Institution, Mr. Faraday mentioned that he had received through our ambassador at Constantinople, a substance gathered from the ground in Anatolia, in Asia Minor and called by the natives *Manna*. It appears that it can only be procured from the earth in the morning after a heavy fall of dew; and as it covers the surface of the country, the natives superstitiously believe that it falls with the dew. The French physician who collected the specimen described it as not being of vegetable origin. This, however, turns out to be a mistake.

The substance is in small rounded dark coloured masses, about the size of a pea, and speckled with small white spots. Mr. Brown the eminent botanist has ascertained that it belongs to the family of lichens, although it is of an unknown species. Mr. Faraday found on examination, that in-

dependently of some insoluble matter, and oxalate of lime, it contains the amylaceous principle, *lichenin*, the solution in water acquiring a deep purple colour with iodine like that caused by this substance in a decoction of Iceland moss. The natives make it into kind of bread and eat it; but its nutritious properties, like those of the *tripe de roche* of North America, are of course very feeble; and although called manna, it has not the slighest relation to the inspissated vegetable juice known under that name.

The following engraving represents the appearance of the lichen when enlarged to about five diameters.



The white terminations of the prominences appear to be shields, being bordered in several by a semi-translucent rim and the surface more or less depressed, though at first view they might be regarded as mere abrasions of the dark external coating exhibiting the chalk-like substance of the interior.

It is unlike any British species of Lichen, but perhaps, considering the circumstances under which it is found, it approaches nearest to the genus Collema.

### OBITUARY.

On the 29th ult., at Cavan, Ireland, in the 40th year of his age. Thomas Helsop, M.D. late of Durham-row, Stepney.

On the 5th inst., Mr. E. H. Hodgson, Surgeon of Burton-upon-Trent.

On the 6th inst. in his 70th year, Mr. De Ville, well known to the profession as a phrenologist.

On the 30th ult., at Stow-in-the-Wold, Gloucestershire, Mr. J. D. Charles, surgeon, late of Orchard-Street, Portman-Square.

On the 11th inst. at Oxford, Charles Wingfield, Esq. surgeon, aged 59.

## Medical Statistics.

### CONCLUSIONS RESPECTING THE INFLUENCE OF VARIOUS EMPLOYMENTS IN INDUCING PULMONARY CONSUMPTION.

BY DR. W. A. GUY.

1. The ratio of cases of pulmonary consumption to those of other diseases is somewhat higher in persons following in-door occupations than in those working in the open air; and this rule applies to both sexes. It also holds good with regard to the deaths from consumption as compared to those from all other diseases.

2. Pulmonary consumption occurs at an earlier age in men following in-door occupations than in those following out-door occupations. The same rule holds good with regard to the deaths from consumption.

4. The probable excess of cases of pulmonary consumption in men following in-door occupations (for a higher ratio of consumptive cases in those employments is merely a strong presumption in favour of such excess) and the earlier age at which consumption makes its attack, would naturally tend to fill this class of employments with a greater number of young men, as well as to occasion a higher mortality at the earlier periods of life, and a lower average age of death. The greatest age, as it happens, is the same in the two classes.

The classification of in-door employments, according to the amount of exertion which they require, leads to the following results:—

1. The ratio of cases of pulmonary consumption to those of all other diseases is highest when the amount of exertion is least, and lowest when it is greatest; and the intermediate degree of exertion presents an intermediate ratio. The same statement holds good in respect of the deaths from consumption compared with those from other diseases.

2. The age at which consumption makes its attack, and at which it proves fatal, is earlier in employments requiring little exertion than in those requiring more exertion, and in those requiring moderate exertion than in those demanding great effort.

3. The per centage proportions of men under 40 years of age following these three classes of employment is in strict accordance with the ratio of consumptive cases, and the ages at which consumption makes its attack and proves fatal; these proportions following the exact order of the degree of exertion.

4. The age of death, and the age of death from consumption, also follows the same order, the per centage proportion of deaths under 40 being highest when there is least exertion, lowest when there is greatest, and intermediate when there is an intermediate degree of exertion.

5. The average age of death, also, is lowest when there is least exertion, but highest when the exertion is intermediate between the two extremes. The somewhat lower average obtained in the case of employments requiring great exertion, appears to depend on an excessive mortality under

20 years of age. The greatest age also occurs in occupations requiring a medium degree of exertion, the least maximum in those demanding the greatest effort.

6. In the class of in-door occupations, with varied exercise, (a class including the footman, waiter, &c.) the ratio of cases of pulmonary consumption ranks next to that of the sedentary occupations, and the per centage proportion of consumptive cases occurring before 40, the per centage proportion of men so employed under that age, and the per centage proportion of deaths, are higher than in any of the other classes, while the average age of death is lower. This class, however, stands alone, inasmuch as young men are in greater request, and old men comparatively little wanted.

7. The class of out-door occupations requiring moderate exertion, present a higher per centage proportion of deaths under 40, and a corresponding excess of young men; but the ratio of consumptive cases, and the per centage proportion of such cases occurring under 40, are lower than in the class requiring greater exertion. This apparent anomaly may probably be explained by the fact, that the attack of consumption is postponed till a later age in men following out-door employments, than in those working within doors.

8. The maximum age in the case of men following the more laborious out-door employment is lower by one year than in those using less exertion; and in the latter there is a considerable excess of aged men.

9. Sedentary employments, and those requiring little exertion, are more unfavourable to adult and middle age, but more favourable to old age, than those requiring greater effort; on the other hand, employments requiring greater exertion are unfavourable to youth and longevity, but favourable to middle age. Employments requiring little exertion prove fatal by inducing an excess of cases of pulmonary consumption, those requiring great exertion by occasioning other diseases of the air-passages and lungs, towards the commencement of old age.

The following observations apply to certain occupations examined separately, and to the effects of intemperance.

1. The exposure to a high temperature does not appear to exercise any injurious influence upon health during the early periods of life; but, in common with employments requiring a great amount of exertion, it is unfavourable to longevity.

2. The inhalation of dust does not appear to be attended with the extremely injurious consequences which the high ratio of cases of pulmonary consumption would lead us to expect; but, when compared with the aggregate of other out-door occupations, the employment of the mason is found to be, in some degree, less favourable to health and longevity.

3. Habits of intemperance appear to exercise a most injurious influence upon health; for men peculiarly exposed to the temptation of drinking present a high ratio of cases of consumption, a high per centage proportion of such cases occurring under forty, an excess of young men, an excess of deaths under forty, and especially between thirty and forty years of age, and a low average and maximum age.

Lastly. A comparison of the ages at death of gentlemen, (including professional men,) tradesmen, and artisans, issues in displaying the great advantage which the first class possesses over the other two, and the comparatively small difference which exists between the tradesman and the artisan. The average age of death of the first class exceeds that of the other two by ten years, while the average age of the tradesman exceeds that of the artisan only by the small portion of a year.—*Further Contributions to a Knowledge of the Influence of Employments on Health, &c.; Brit. and For. Med. Review.*

## COMPARATIVE PREVALENCE OF PHTHISIS IN VARIOUS LOCALITIES.

BY M. LEVY.

According to M. Journée, in Leghorn there is 1 phthisical patient to 44 attacked by other diseases; in Florence, 1 to 28; in Rome, 1 to 20; in Naples, 1 to 6. This last calculation probably exceeds the truth, for, according to M. de Rienzi, notwithstanding the influx of invalids, which must, in that city, raise the number of those suffering from tubercle, the proportion of consumptive to other patients is as 1 to 12; an estimate which indicates the superiority of Naples as a place of residence over Paris, where, according to this writer, 1 phthisical person is met with in 4 cases of sickness. Lastly, M. Cas. Broussais, who has collected those and other documents, in a memoir read before the Academy of Medicine, has made an abstract of the numerical results obtained in the several branches of the medical department in Africa. The medical statistics of 14 principal stations in the Provinces of Algiers, Bona, Oran, and Constantine, give 1 death from phthisis in 100 deaths, and 1 case of phthisis in 561 cases of sickness; whilst, according to M. Benoiston, whose researches extend over a period of twelve years, and which are confirmed by those made by M. C. Broussais at the military hospital of Val-de-Grâce, it is proved that, in the French army, 1 death in 5 arises from phthisis.—*Med. Chir. Review*, Jan. 1846.

## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

FRIDAY, *May* 8.—J. Ward.—J. D. Blake.—C. C. Hailey.—F. Sibery.—E. C. Thorp.—D. Evans.—R. R. Crucifix.—N. J. Hobart.—R. Allen.—T. C. Jones.—J. Syme.—J. S. Smith.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *May* 7.—Richard Sandford, the Isle, Salop.—Edward Lowdell.—Geo. Johnstone Langsford, Gibraltar.—John Rowe, Penzance, Cornwall.—John Griffith Morris, Hereford.—William Burns Beatson.—William Frederick Cleveland, Lowestoft.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, May 2.*

| Births. | | Deaths. | | *Aver. of 5 yrs.* | |
|---|---|---|---|---|---|
| Males.... | 729 | Males.... | 419 | Males.... | 493 |
| Females . | 686 | Females . | 412 | Females . | 475 |
| | 1415 | | 831 | | 968 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129. *Population, in* 1841, 1,915,104.)

| | | |
|---|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. | (Pop. 301,326) | 127 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... | (Pop. 366,303) | 146 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ... ..... | (Pop. 374,759) | 141 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ..... | Pop. 393,247) | 191 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ..... | (Pop. 479,469) | 226 |
| Total ..... | | 831 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Springs; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 831 | 892 | 968 |
| SPECIFIED CAUSES ..... | 829 | 886 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 123 | 162 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 79 | 98 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 144 | 155 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 288 | 271 | 294 |
| 5. Heart and Blood-vessels ..... | 26 | 26 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 60 | 65 | 72 |
| 7. Diseases of the Kidneys, &c... | 7 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 14 | 9 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 10 | 6 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 2 | 1 | 2 |
| 11. Old Age..... | 35 | 60 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 41 | 25 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 2 | Convulsions .... | 36 |
| Measles ..... | 9 | | |
| Scarlatina ..... | 6 | Bronchitis ..... | 42 |
| Hooping-cough.. | 48 | Pneumonia..... | 69 |
| Typhus ..... | 23 | Phthisis .....141 | |
| | | Dis. of Lungs, &c. | 17 |
| Dropsy..... | 15 | Teething ..... | 6 |
| Sudden deaths .. | 7 | Dis. Stomach, &c. | 6 |
| | | Dis. of Liver, &c. | 15 |
| Hydrocephalus .. | 28 | | |
| Apoplexy..... | 27 | Childbirth ..... | 9 |
| Paralysis..... | 22 | Dis. of Uterus, &c. | 3 |

REMARKS.—The total number of deaths was 61 below the vernal and 137 below the annual average. The deaths from Zymotic diseases have become remarkably reduced, and, with the exception of hooping-cough, are much below the averages. There were only two deaths from small-pox! In all the districts, the mortality was below the average.

## METEOROLOGICAL SUMMARY.

| | |
|---|---|
| Mean Height of Barometer ..... | 30·01 |
| ,, ,, Thermometer[a]..... | 48·4 |
| Self-registering do.[b] ..... | max. 85·5 min. 21·1 |
| ,, in the Thames water. | — 54·5 — 49·8 |

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·23: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was 5·6° below that of the mean temperature of the month (54°). The extreme hebdomadal range in the self-registering thermometer was 64·4°.

## NOTICES TO CORRESPONDENTS.

Mr. De Beauvoir de Lisle's note has been forwarded to the publishers. The printers endeavour to avoid carrying the Meteorological Summary into the Advertisements; but occasionally the length of the papers, with the absolute necessity for inserting them, renders this unavoidable.

Dr. Tavignot's letter has been received, and a communication on the subject shall be made.

A Reader of the Medical Gazette.—The silvering liquid merely requires to be poured on a *clean* surface of glass: the Liquor Ammoniæ P.L. will answer. No more should be used than is necessary to redissolve the oxide of silver, which, in the first instance, is precipitated. We would recommend the following preparation:—Arg. Nit. dr. j.; Aquæ Distill. dr. v. Dissolve: precipitate the oxide with ammonia, and add enough to redissolve. When the solution is required for silvering, add to the above quantity, one drachm of Rectified Spirit holding dissolved three drops of Oil of Cassia and four drops of Oil of Cloves. Agitate the mixture, and pour it on the clean surface of glass or into the glass vessel to be silvered. The metal is slowly deposited. If plate glass is used, there must be a border of wax.

A Subscriber.—No. Many persons so practise, however, without any interference on the part of the College.

The communications of Mr. Copeman—Mr. Brown—Mr. Dorrington—Dr. C. H. Jones—Dr. Wardell, and Mr. J. C. Evans—in our next

*Received.*—Mr. Johnson.

CORRIGENDUM.—Mr. France's paper, last No. p. 819, col. 2, lines 18-19, *read* the cerebro-iridal set in the last-mentioned eye; in the other, the spino-iridal.

ON

# VESICULAR AND INTERLOBULAR EMPHYSEMA OF THE LUNGS.

By Dr. Bonino.

[*Translated for the* Medical Gazette.] *

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The following account of the pathology of pulmonary emphysema has been extracted from a recent paper on the subject by Dr. Bonino†. The true nature and varieties of this affection have only latterly been fully determined; for although Laennec recognised the possibility of two different forms of emphysema—the vesicular and interlobular; yet this distinction seems to have been overlooked by many.

*Vesicular emphysema.*—Lungs, in which the cells are distended, have a drier feel on their surface than healthy lungs: they are very pale, and the black matter deposited within them contrasts in a marked degree with the surrounding pale, almost white, tissue. When the emphysema is not very advanced, the surface of the affected lung presents to the naked eye, or when examined with a lens, an aspect very similar to that presented by dried leaves, in which the veins or nervules alone remain, the parenchyma having disappeared: in the case of the emphysematous lung the nervules are represented by the walls of the enlarged cells. If the emphysema is more marked, the distended cells on the surface may be noticed as so many rounded elevations or prominences beneath the pleura: these elevations vary in size from millet-seeds to peas or even filberts, but when they attain the latter size they are commonly formed by the reunion of several cells. When the emphysema is partial, and has only attacked isolated lobules, these lobules (having their usual polygonal forms) stand up above the general surface of the lung. When a portion of dried emphysematous lung is cut across, the dilated air-cells may be observed very perceptibly even with the naked eye. Examined beneath the microscope the walls of these enlarged cells appear thinner than in the normal condition. In a still further advanced stage of the disease the individual cells no longer remain entire, they tend to unite with each other; the thin wall separating two individual vesicles gives way at one point, and forms thus a kind of perforated diaphragm between the two cavities: this opening soon increases, and shortly all trace of the membrane of separation previously existing between the two cells becomes lost, nothing remaining but a few floating shreds, which become gradually finer and more filamentous, and at length entirely disappear, leaving a single cell in the place previously occupied by two. This change is going on at the same time in various parts of the emphysematous lung, and not merely between two but between several cells, and thus are formed numerous small cavities, which again unite with each other, and form still larger ones: these changes may be observed in all their different stages. It seems only natural to suppose that these various cavities should present all possible varieties of form, according to the direction in which the parietes of one cell after the other have undergone the process: and such is really the case. Sometimes several cells, lying in juxtaposition along a straight line, open into each other so as to produce a kind of canal; resembling thus the mode by which certain vessels in vegetable structures are in all probability formed, namely, by the breaking down or fusing of the membranous partitions interposed between the several cells lying in apposition to each other. When a single lobule is very emphysematous, and is isolated in the midst of healthy lobules, upon cutting across the portion of lung in which it is situated it becomes at once distinguishable from the surrounding healthy lobules; it is much less coloured; its tissue appears more rare, and bears about the same amount of resemblance to the tissue of the neighbouring lobules as does the reticular structure of bones to their cellular [? compact] structure.

This difference is very obvious, and the line of separation between the emphysematous and the healthy portions of lung is quite perceptible even at a distance. Upon opening any of the vesicles, which project from the surface of the lung, they are frequently found larger than they appeared at first, and by the side of them others were observed which were not visible on the surface. There may be almost always observed along the walls of these enlarged cavities more or less of the shreddy remains of the previously existing partitions, which proves that these cavities are not simply the result of a dilatation of single cells. When the cavities are of larger size than peas, and no traces of these debris are to be found, then it may be concluded that they have been absorbed. It is common to notice, along the inner surface of the cavities, orifices of com-

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* It is necessary to state, that this paper has been a long time on hand. We have not before had an opportunity of inserting it, owing to our space having been, as our readers must have perceived, so much occupied with lectures and original communications. We have a great respect for the labours of our continental brethren, and do not fail to make occasional use of them, but we feel that it would be an injustice to our English readers to occupy our pages weekly with a mass of translations from foreign journals.—Ed. Gaz.

Gazette Médicale de Paris, 1845.

munication with surrounding cells. When a slice of healthy lung and another of emphysematous lung are examined together beneath the microscope, the difference between the two becomes still more marked; the vascularity of the latter is evidently diminished, nothing but the trunks of the principal vessels being visible, all their divisions having disappeared, whilst in the healthy portion of lung each cell may be perceived, surrounded by numerous vascular ramifications, appearing like so many fine red lines.

When vesicular emphysema has been developed slowly, it is seldom, if ever, that interlobular emphysema is found co-existent with it. These two varieties of emphysema occur together only in those cases in which the disease has gone on rapidly; as, for instance, where it has resulted from impermeability of a large portion of the lung or lungs, caused by extensive tuberculization, by hydro- or pneumo-thorax, by pneumonia (whether idiopathic or a concomitant of any of the forms of fever), or by any other rapidly inducing cause of obstruction to the permeability of a large portion of the pulmonary structure. Even in these cases, however, interlobular emphysema is seldom found to any great extent. There frequently co-exists with vesicular emphysema small moveable bubbles of air immediately beneath the pleura, the occurrence of which is readily explained by the bursting of the superficial vesicles, and the consequent escape of their contained air.

With respect to the formation of vesicular emphysema, it seems probable that its occurrence may be explained somewhat in the following manner. When not of congenital origin, it depends almost invariably upon an acute or chronic catarrh. This latter, either by the deposit of some product of secretion, or by tumefaction of the mucous membrane, or by both these causes combined, induces a narrowing of the small bronchial tubes. This obstruction to the paasage of air is overcome during the inspiratory act, which is effected by considerable force, and the inspired air penetrates even to the ultimate pulmonary vesicles; but expiration, which is produced chiefly by the elasticity of the walls of the vesicle, aided by the falling in of the parietes of the chest, is a much more feeble act, and is capable of expelling only a portion of the introduced air, being unable to overcome completely the obstruction offered by the partial blocking up of the bronchial tubes. This is repeated at each respiratory act, and the result is, that air accumulates in the pulmonary cells, the walls of which it distends, and becoming expanded by the heat of the body it increases the amount of distension still further. From being constantly and abnormally on the stretch, the walls by degrees lose their elasticity, and become less able (eventually perhaps quite unable), to react on the air contained within their cavity; and so the process of respiration becomes more and more incompletely performed, and the respiratory movements more and more laboured.

The anatomical changes in the structure of the lungs, which result from this dilatation of the pulmonary vesicles, are curious and important. The first effect produced will be compression of the cellular tissue intervening between the cells, which will be converted into a continuous and compact layer. The minute venous and arterial ramifications situated within this compressed cellular tissue will become flattened, and soon quite impermeable to blood. Thus will the circulation through the emphysematous portion of lung be suppressed; hence the paleness and dryness observed; and hence the absence of vessels noticed, when its tissue is minutely examined. Thus at the same time that the walls of the pulmonary vesicles are submitted to the mechanically distending force exercised upon them by the air all but imprisoned within their cavities, they also receive a very deficient supply of blood, and their nutrition in consequence becomes greatly impaired; there is thus a double cause constantly in operation, tending to produce thinness of the walls, and their gradual disappearance by interstitial absorption. The rarefaction observed in the tissue of an emphysematous portion of lung is thus easily accounted for.

If we consider, on the one hand, the obstacle which the blood experiences in traversing emphysematous parts of lungs, and, on the other hand, the diminished extent of surface on which the blood can be duly exposed to the action of air, together with also the constantly increasing difficulty with which air is renewed, we can readily comprehend the habitual dyspnœa attendant upon an emphysematous state of lungs: a dyspnœa which, although increased by any accompanying catarrh, is yet quite independent of such a cause, inasmuch as it may, and does, exist without it. The difficulty which patients with emphysematous lungs experience in maintaining the horizontal posture is explained, by this position being unfavourable to the full exercise of the muscular force, which they absolutely require in order to obtain an efficacious respiratory act. Hence the great frequency with which accessions of dyspnœa supervene at night when this posture is commonly assumed. The patients are obliged to sit up in bed, or lean forward and stretch their arms in front, in order to afford a fixed surface from which the various respiratory muscles can act. The respiration is chiefly abdominal, because

the walls of the chest being kept constantly expanded by the distension of the emphysematous lungs within their cavity, can admit of very little further movement outwards; the whole chest heaves at each inspiratory act, but the walls themselves in reality move little. This impossibility of any great increase in the dimensions of the cavity of the chest at each inspiration, accounts for the feebleness, or almost complete absence, of the respiratory murmur in emphysematous lungs, since the vesicular structure no longer undergoes expansion and contraction as in its healthy condition. When the emphysema is far advanced, the distended lungs, by expanding the walls of the chest, naturally produce that rounded barrel-shaped appearance which the thorax of emphysematous people commonly assumes, and which is so characteristic of the affection.

From what has just been stated respecting the anatomical peculiarities which result from the dilatation of the pnlmonary vesicles, the reason why vesicular emphysema, when formed slowly, is never found complicated with interlobular emphysema, will appear evident. The cells dilate gradually and insensibly, and only become ruptured at an advanced period of the dis ease, at which time the interlobubar cellular tissue is compressed and almost obliterated, or at any rate is rendered so thin and condensed that it is not capable of admitting air into meshes which no longer can be said to exist; consequently, when the dilated cells rupture, they can but rupture into each other: when this rupture takes place on the surface of the lung, however, we can easily imagine that the air they contained may escape into the subpleural cellular tissue, which is not in the same condensed state as the interlobular cellular tissue: in this way the formation of the moveable bubbles of air, frequently found immediately beneath the pleura, may be accounted for. Laennec, who remarked this mutual independence of the two kinds of pulmonary emphysema, stated that he had never seen them occur together, and had never met with, even in the most intense cases, any other infiltration of air than a few bubbles in the cellular tissue immediately beneath the pulmonary pleura. Although this remark be true in the main, yet an exception occurs, as was noticed in those cases in which emphysema results from a large portion of the pulmonary structure being suddenly rendered impermeable to air. In these cases there occurs a greatly increased dilatation of the air cells; which dilatation, if not instantaneous, is at least far from being gradual, and their walls may rupture at a very early period of the affection, before there has been sufficient time for the interlobular cellular tissue to become condensed and rendered insusceptible of infiltration. Laennec has not met with this coincidence; doubtless because he has not sought for it in cases of this kind, but only in the most acute cases, in which it does not exist.

It has been stated, that in vesicular emphysema, atrophy, or rather absorption of the walls of the vesicles, takes place. A directly opposite view, however, is maintained by many, who regard the walls of the vesicles to be in a condition of hypertrophy, being led to the opinion chiefly by observing what occurs in the several organs of the body when unduly and habitually dilated. Thus they have adduced the hypertrophy which the œsophagus, stomach, intestines, and the heart undergo, when they are the seat of an habitual dilatation, resulting from some obstacle offered to the free passage of the fluids or solids which ought to traverse them. But an analogy between the two cases evidently does not exist; the condition of the pulmonary cells is quite different to that of the instances mentioned; the stomach or the heart, when dilated, have no obstacle surrounding them by which their amount of dilatation can be limited; but this is not the case with the pulmonary vesicles; they are circumscribed within given spaces, which they cannot exceed; they meet with an obstacle in all the surrounding vesicles, which themselves are undergoing dilatation, and to which they in their turn also present an obstacle; moreover, the compression and obliteration of the blood-vessels is one of the primary effects of this dilatation, and the nutrition of the walls is thus interfered with; how, then, can an hypertrophy of them occur, since an essential condition for the occurrence of hypertrophy is an abundant supply of blood?

Again, in admitting hypertrophy, it seems very difficult to comprehend the rarefaction of the pulmonary tissue, and the constant rupture of the walls of the vesicles, which evidently can take place best when these walls are greatly thinned. Would not the effect of hypertrophy of the cells, on the contrary, be most likely to defend the lungs from the several anatomical lesions which we find invariably existing in emphysema? Finally, it is proved by microscopic examination, that the walls of the vesicles, instead of being hypertrophied, are in reality considerably thinned.

*Interlobular Emphysema.* — The existence of this form of emphysema may be detected both on examining the surface of the lung and on making sections of its tissue. On its surface, the polygonal lines which separate the lobules are observed enlarged and transparent. This peculiarity is especially evident along the margins of the lung

when one of these margins is held between the eye and the light, one may perceive diaphanous bands, which are largest at the surface, and gradually become narrower as they penetrate into the substance of the lung, into which they advance to a greater or less distance; they have a triangular form, which induced Laennec to compare them to the segments of an orange containing air in their vesicles. On cutting into the lung, the same transparent lines may be observed in the deeper parts of of the pulmonary structure; but here they are generally narrower, and do not assume a triangular form; those observed along the margins may attain a breadth of five or six lines, or even of an inch. These bands enclose between them pulmonary lobules of various sizes, which lobules are sometimes surrounded on all sides by this infiltrated air, and are thus, as it were, isolated from the rest of the lung. In one case of interlobular emphysema which was examined, the following peculiarities were noticed:— In a small lobule, of a triangular pyramidal form, which was found isolated from the rest of the pulmonary structure, by a surrounding layer of interlobular cellular tissue infiltrated with air, a single blood-vessel was observed to enter at the summit, and to pass to the centre of the lobule, from which point it distributed itself to all the surrounding parts; — as the branches approached towards the circumference of the lobule, they were observed to be greatly diminished in size, and when near the most distant cells, they disappeared altogether. At the same time, it was noticed that the tissue at the periphery of the lobule was rarefied; the walls of the cells were extremely fine, many of them were ruptured, and the cells themselves were enlarged. This rarefaction of the pulmonary tissue was less marked the nearer it approached to the centre of the lobule, where the cells were normal, as also the supply of blood. It would appear from the above peculiarities, that the lobule in question was about to disappear, and would possibly have eventually become united with the infiltrated interlobular spaces surrounding it. The thinning of the walls of these cells at the periphery, their dilatation and rupture, might all be explained as the effect of infiltration into the surrounding interlobular tissue; for this infiltration would have a constant tendency to increase, and would exert more and more compression on the lobule, the circulation within which it would impede, and thus interfere with the nutrition of the cells, the walls of which would, as a consequence, grow thin, dilate, and rupture, just as in the case of ordinary vesicular emphysema. It might be supposed that the rarefaction and other appearances presented by the lobule might be the result of primarily existing vesicular emphysema, and the interlobular emphysema which was found might be merely the consequence of rupture of one of the dilated cells and escape of air into the tissue of the interlobular space; but that such was not the case, was proved by the fact that even the most external cells of the lobule were separated from the infiltrated interlobular tissue by a well-marked layer of tissue and that no such rupture could be found.

Interlobular emphysema, when found, may extend to the cellular tissue around the vessels of the lung, to the sub-pleural cellular tissue; also, when near the root of the lung, it may reach the mediastinum, pass up the neck, and sometimes, but rarely, extend to the intermuscular and subcutaneous cellular tissue of the whole body.

Interlobular emphysema is always produced rapidly, often instantaneously; it results from a violent respiratory effort: frequently this effort, which has produced the emphysema, is of necessity repeated several times, but in others it only takes place once. An instance of its occurrence is afforded in some cases of parturition, where violent straining efforts are made to expedite a difficult labour; a deep inspiration is made, and the chest filled with air, in order to afford the various muscles attached to its walls a firm and fixed surface from which they may act in the straining effort; the glottis is then closed, and presents an impassable barrier to the air within the chest; this air, through being heated by the high temperature of the body, expands, and occupies a larger space in the pulmonary vesicles than it did when first admitted;— then comes the straining effort; the air-cells are suddenly and unusually distended by a force which they cannot resist, and one or more of them gives way, and the air they contained is infiltrated into the interlobular cellular tissue, all the meshes of which being in a healthy condition are perfectly permeable to this fluid: at the same time the ruptured vesicles themselves, having been momentarily distended, again contract upon themselves by reason of their elasticity. It is easy to conceive how, in this way, interlobular emphysema may be produced without the previous or subsequent existence of vesicular emphysema.

The progress of vesicular emphysema is essentially chronic; that of interlobular emphysema acute. The former lasts many years, or even for life, when it is congenital, whilst the second terminates very speedily, either in death or in permanent cure. When we reflect on the nature of these two varieties of emphysema, their different results appear less surprising. Vesicular emphysema constitutes an organic lesion of the lungs which

medicine is unable to remove. The texture of the organ is altered in such a way as to be incapable of return to its normal condition; yet this alteration is still compatible with the continuance of life. Interlobular emphysema, on the other hand, is rather a traumatic injury than an internal malady; it is an emphysema in all respects similar to a surgical emphysema—a simple infiltration of air into the cellular tissue of the lungs; and the absorption of this air takes place in the cellular tissue of the lungs just as in the subcutaneous cellular tissue. It is not, therefore, surprising that its progress should be rapid and its duration short, since it is proportioned to the time required for air to be absorbed. When, however, interlobular emphysema co-exists with vesicular emphysema, as in the case of impermeability of a certain portion of the lungs, it has a much longer duration, because the cause of its production still continues to act. The cellular tissue of the lungs cannot empty itself of the air infiltrated into it until the impermeable portion of lung is again rendered fit for the functions of respiration. On the other hand, vesicular emphysema may also present a rapid progress, such as happens when it follows an attack of bronchitis.

## Original Communications.

### NATURE AND TREATMENT OF FLOODINGS AFTER DELIVERY.

By Edward Copeman, F.R.C.S.

I have only within the last few days seen the second paper of Mr. Adams, in the Gazette for Jan. 23d, on floodings after delivery, wherein he gives an elaborate statement of his views upon the subject; and, as they are peculiar, he will not be surprised at their exciting discussion. The foundation upon which the whole of Mr. Adams' theory rests, is the fact, if it be one, hat there is no vascular connection etween the uterus and placenta; and l so fully believes this to be the case, th t he says, "it is now *conceded on all hads*, as being *most satisfactorily determined*, that no maternal vessels capable f conveying blood are ruptured at the s aration of the placenta." In fact, there ust be as little connection between he source of the hæmorrhage and th uterus, as between wounded arteries in the operation of lithotomy, and the bladder.*

Under the certainty only of such want of connection between the uterus and placenta can the arguments in the paper above referred to stand good; and even then, there are many cases of uterine hæmorrhage which they are totally inadequate to explain. Surely, therefore, there must be something wrong in the theory; the contrary opinion, as to there being vessels passing from the uterus into the placenta, is far more consistent with the explanation of circumstances constantly arising in practice, and scarcely in any instance fails of affording a rational explanation of the cause and cure of uterine hæmorrhage. It is important, therefore, to ascertain whether the doctrine Mr. Adams maintains be so generally adopted as he seems to believe, and whether there be not a greater weight of evidence in favour of the opposite theory. How strange it is, that in a matter of so much importance as the right determination of this long disputed point, there should have been no demonstration sufficiently satisfactory to leave the true state of the case beyond the possibility of doubt.

In matters requiring minute and patient investigation, it must be admitted that the authority of the Hunters is of great weight; and it is equally true that the subject of the connection between the uterus and placenta has never been more fully studied than by those illustrious men. How is it possible that they could have been so completely mistaken in this, to them most interesting subject, as to publish the following explanation of *what they saw*, provided such things could not have been seen because they did not exist? In his account of a dissection of the injected uterus of a woman who died undelivered at the full term, John Hunter says: "I first raised, with great care, a part of the uterus from the irregular mass, and in doing this observed regular pieces of wax passing obliquely between it and the uterus, which broke off, leaving part attached to that mass; and on attentively examining the portion towards the uterus, they plainly appeared to be a continuation of the veins passing

* See Mr. Adams' paper. Med. Gazette, v. xxxvii. p. 143.

from it to this substance, which proved to be placenta.

"I likewise observed the vessels, about the size of a crow-quill, passing in the same manner, although not so obliquely; these also broke upon separating the placenta and uterus, leaving a small portion on the surface of the placenta; and on examination they were discovered to be continuations of the arteries of the uterus. My next step was to trace these vessels into the substance of what appeared placenta, which was first attempted in a vein; but that soon lost the regularity of a vessel, by terminating at once upon the surface of the placenta in a very fine spongy substance, the interstices of which were filled with the yellow injected matter. I then examined the arteries, tracing them in the same manner towards the placenta, and found that, having made a twist, or close spinal turn upon themselves, they were lost on its surface. On a more attentive view, I perceived that they terminated in the same way as the vein; for opposite to the mouth of the artery the spongy substance of the placenta was readily distinguished with the red injection intermixed; the substance of the placenta, now filled with injection, had nothing of the vascular appearance, nor that of extravasation, but had a regularity in its form which shewed it to be naturally of a cellular structure, fitted to be a reservoir for blood. I perceived, likewise, that the red injection of the arteries (which had been first injected) had passed out of the substance of the placenta into some of the veins leading from the placenta to the uterus, mixing itself with the yellow injection; and that the spongy chorion, called the decidua, was very vascular, its vessels going to and from the uterus being filled with the different coloured injections."

"Soon after this time, Dr. Hunter and I procured several placentæ, to discover if, after delivery, the termination of the veins and the curling arteries could be observed; *they were discernible almost in every one;* and by pushing a pipe into the placenta we could fill not only its whole substance, but also the vessels on that surface which was attached to the uterus, with injection.

"The arteries which are not immediately employed in conveying nourishment to the uterus go on towards the placenta, and proceeding obliquely between it and the uterus, pass through the decidua without ramifying; just before they enter the placenta, after making two or three close spiral turns upon themselves, they open at once into its spongy substance without any diminution of size, and without passing beyond the surface. The intention of these spiral turns would appear to be that of diminishing the force of the circulation in the vessels as they approach the spongy substance of the placenta, and is a mechanism calculated to lessen the quick motion of the blood in a part when a quick motion was not required. These curling arteries at this termination are in general about half the size of a crow's quill, and sometimes larger.

"The veins of the uterus appropriated to bring back the blood from the placenta, commence from this spongy substance by such wide beginnings as are more than equal to the size of the veins themselves. These veins pass obliquely through the decidua to the uterus, enter its substance obliquely, and immediately communicate with the proper veins of the uterus. The area of these veins bears no proportion to their circumference, the veins being very much flattened."

To this apparently clear and satisfactory explanation of John Hunter, Mr. Owen adds his valuable testimony, as follows: "I was furnished by Dr. Lee with sections of an uninjected and naturally connected uterus and placenta, at the sixth month of utero-gestation, which I fixed under water in an apparatus used for dissecting mollusca, and commenced the dissection from the outside, removing successively, and with great care, the layers of fibres, and tracing the veins as they passed deeper and deeper in the substance of the uterus in their course to the deciduous membrane; in which situation, as the thinnest pellicle of membrane is rendered distinct by being supported in the ambient fluid, I naturally expected to see the coats of the veins continued into the deciduous membrane and placenta, and to be able to preserve the appearance in a preparation, if it

actually existed in nature. Every vein, however, when traced to the inner surface of the uterus, appeared to terminate in an open mouth on that aspect; the peripheral portion of the coat of the vein, or that next the uterus, ending in a well-defined and smooth semicircular margin, the central part adhering to, and being continuous with, the decidua. In the course of this dissection I observed that where the veins of different places communicated with each other, in the substance of the walls of the uterus, the central portion of the parietes of the superficial vein invariably projected in a semilunar form into the deeper-seated one; and where two, or even three, of these wide venous channels communicated with a deeper sinus at the same point, the semilunar edges decussated each other so as to allow only a very small part of the deep-seated vein to be seen. It need scarcely be observed how admirably this structure is adapted to ensure the arrest of the current of blood through these passages, upon the contraction of the muscular fibres with which they are everywhere immediately surrounded.

On another portion of the same uterus and placenta, I commenced the examination under water by turning off the placenta and deciduous membrane from the inner surface of the uterus. In this way the small tortuous uterine arteries which enter the deciduous membrane were readily distinguishable, though not filled with injected matter; and, as it was an object to avoid unnecessary force in the process of separation, *they were cut through*, though they are easily torn from the decidua. But with respect to the veins, they invariably presented the same appearances as were noticed in the first dissection, terminating in open semicircular orifices, which are closed by the apposition of the deciduous membrane and placenta. This membrane is, however, thinner opposite these orifices than elsewhere, *and in some places appeared to be wanting*, or, adhering to the vein, was torn up with it; but in these cases the minute vessels of the placenta only appeared, and never any indication of a vascular trunk or cell commensurate with the size of the vein whose terminal aperture had been lifted up from the part. The above results appeared decisive of the fact that the veins of the uterus were not continued as such across the decidua, to terminate in visible cells in the substance of the placenta; but whether the terminal orifices of the veins derived no returning blood from the interstices of the decidual laminæ, was by no means certain. For my own part, *having satisfied myself of the passage of the tortuous uterine arteries into the decidua*, I undoubtedly considered the uterine venous sinuses as the most probable and natural channels by which the blood conveyed from the uterus by the tortuous arteries would return again to that body; although I was unable to determine from this dissection how the blood was returned into the open mouths of the veins.

"It must be admitted, that an impregnated uterus at the fifth month, where the vessels, which are very small, had been contracted by the spirit in which the parts had been preserved, was not a very favourable subject for so delicate an investigation. About a year after, I was favoured by Dr. Lee with a large portion of a gravid uterus of a woman who died about the ninth month of gestation, in which the uterine veins had been gently filled with red size injection. This preparation was submitted to the same mode of dissection. In tracing those veins which passed to the inner surface of the uterus, near the middle of the placenta, the injection was seen to be continued from them into oblique, wide, but shallow channels, leading through the external decidua into the placental desidua, and had thence been diffused through the fine spongy cellular tissue which everywhere surrounds and supports the fœtal capillaries. On comparing these appearances with my first dissection, I perceived that the uterine vein, opposite the mouth of which I had supposed the decidua to be wanting, and whose orifice was in contact with the capillaries of the placenta, was in reality one of the oblique decidual canals, returning the blood from the cellular substance of the placenta into the uterine vein, its continuity with which had been preserved.

The continuation of the uterine veins into decidual canals was much more distinct in those which terminated near the circumference of the

placenta; and here the irregular portions of injection, which filled the canals as far as the surface of the placenta, were evidently circumscribed by distinct parietes, and not the result of confused extravasation: the injection from the decidual canals had passed into the large interlobular spaces, or maternal sinuses of the placenta, and thence had become diffused, generally for the extent of an inch, into the spongy or cellular texture of the placenta. Having carefully compared the Hunterian preparations with the results of my own examinations of the gravid uterus at the full period, *I now believe they all fully bear out Mr. Hunter's general view*; viz. that the maternal blood is diffused, by means of the tortuous arteries, into the spongy cellular substance of the placenta, where it bathes the capillaries of the fœtal circulation, and is returned by the oblique decidual adventitious sinuses and channels into the orifices of the uterine veins."*

Dr. Rigby, in his excellent work on Midwifery (Vol. vi. Library of Medicine) quotes largely from the Hunters, and confirms their views. He says:— "From these remarks, founded chiefly on the admirable observation of the Hunters, and *repeated examinations which we have made with the greatest care and impartiality*, it may be stated *with confidence*, that the placenta consists of two portions,—a maternal and a fœtal. The maternal portion consists of a spongy cellular tissue; and also of those trunks which pass through the decidua, and which form the communication between the uterine vessels and the placental cells; the fœtal part is formed by the ramifications of the umbilical vessels: 'that each of those parts has its peculiar system of arteries and veins, and its peculiar circulation, receiving blood by its arteries, and returning it by its veins; that the circulation through these parts of the placenta differs in the following manner—in the umbilical portion the arteries terminate in the veins by a continuity of canal; whereas in the uterine portion there are intermediate cells into which the arteries terminate, and from which the veins begin.' —(Hunter)."†

In the 23d Vol. of the Medico-Chirurgical Transactions, p. 224, Mr. Bloxam gives an interesting account of a dissection of the uterus of a female who died about thirty hours after a most severe labour. From the observations he has made, he deduces the following conclusions, confirmatory of the fact of a vascular connection existing between the uterus and placenta:—

"1. That the blood enters the placenta through the short curling arteries of Hunter; and that although their size is insignificant compared with the venous system of the uterus, yet their relative number being greater, a full supply of blood is insured to the organ; whilst by the smallness of their calibre, they prevent the maternal circulation from expending its full momentum on the system of the child, under the accidental shocks, physical and mental, to which the mother is daily liable.

"2. That these vessels ramify on the spongy tissue of the placenta, and are there in apposition with the extremities of the umbilical veins.

"3. That it is highly probable that some of the properties of the maternal blood pass into the circulation of the fœtus by this means, and having fulfilled its functions in the fœtal economy, the residue is returned to the placenta by the umbilical artery.

"4. That from the free termination of the umbilical arteries it transudes into the interstitial structure of the placenta; which is continuous with the semilunar apertures on its uterine surface.

"5. That these apertures are applied to the openings on the internal surface of the uterus, and furnish the channel by which the blood, or its principles, are restored to the system of the mother.

"In regarding the immense size of the apertures of the venous sinuses, one feels a degree of astonishment that hæmorrhage is not more frequent, and more fatal; but when it is remembered that the essential property of the uterine fibre, at the full term of gestation, is that of contractility, and that by the exercise of this property the orifices of the deeper-seated sinuses must be closed by the more internal layer of muscular fibres, inasmuch as these apertures are not placed on the same meridian, our surprise ceases. It is

* Op. cit. Note by Mr. Owen, p. 68, et seq.
† Rigby, p. 33.

probable that, independently of this mechanical arrangement, the flow of blood from the more superficial openings may be arrested by the formation of coagula, a process for which the flocculent structure of the deciduaseems highly favourable."

Dr. Johnson adopts the same views as Mr. Hunter, and quotes his explanation of the placental circulation.*

Dr. Hamilton explains the circulation between the mother and fœtus as follows:—"No anastomoses of blood-vessels between them have yet been clearly shown by the experiments of any physiologist; nor has any coloured injection been pushed from the uterus into the interior vascular part of the cake, nor from the fœtus or umbilical vessels into the cellular part, except by the force of extravasation. This cellular part of the placenta is probably derived from the decidua, and is not a spongy inorganic substance, merely intended for the attachment of the cake; but probably a regularly constructed and organised part belonging to the mother. The cells, therefore, cannot be filled by injection from the umbilical vessels, *though an injection will readily pass from the vessels of the uterus.*"†

[To be continued.]

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ACCOUNT OF THE

## DISSECTION OF A PSEUDEN-CEPHALIC FŒTUS.

By C. Handfield Jones, M.B. Cantab.
Demonstrator of Anatomy in St. George's Medical School.

This fœtus measured from the heel to the root of the nose about 8¾ inches; its limbs were well formed; the neck quite deficient; the face looking upward appeared to rest on the trunk; some fine hair grew on the skin about the shoulders, and the nails were quite distinct. The cranium was deficient in all the parts above the orbit; in the place of its parietes there were the remains of a large sac, containing some reddish matter of gelatinous consistence; the base of the cranium was formed of partly bony, partly cartilaginous structure, but it was unfortunately injured before its real character was recognised: there did not, however, appear to be any trace of the foramen magnum. The eye seemed to be natural in structure, and was provided with the usual muscles; the optic nerve passed inwards some way, and terminated as far as could be ascertained by a free extremity. No auditory nerve could be found; there were, however, labyrinthic cavities, and an apparently normal tympanum, with the usual ossicula; the external ear and meatus were also present; no roots of the other cranial nerves could be discovered, except that of the inferior maxillary division of the fifth, which was found by tracing the gustatory nerve upwards; it is probable, however, that they existed, but had been injured in the previous dissection.

The vertebral canal was seen to be widely open down to the lower part of the dorsal region; from it there projected a large sac, with fibrous parietes, very much resembling that observed in cases of spina bifida; this sac lay in a kind of fossa, bounded by the flattened ribs on each side; above it was attached to a firm body, which was afterwards found to be the cricoid cartilage; below it seemed to blend with the skin, and to be attached to the posterior part of the iliac crest. On cutting into this sac, it was found to be divided into two compartments; the one on the left contained two bodies, a greater and a lesser, of deep red colour; their general appearance was exactly that of the spleen, and with this their minute structure was found by microscopic examination to agree. The right chamber of the sac was empty; it did not appear to have any external opening, but at its lower part, and continuous with it, was a small pouch into which a probe made its way into the intestine contained in the cavity of the abdomen; it did not, however, communicate with either of the chambers of the larger sac, the left one of which from its connexions and general relations I am disposed to regard as representing the stomach.

In the lower part of the trunk the vertebral canal appeared to cease rather abruptly; the ossa innominata had the usual conformation, but the pubic portions were widely separated, so that there was no symphysis; the sacrum was reduced to a single piece and a

* A System of Midwifery, by Robert Wallace Johnson, M.D. 4to. p. 63.

† Outlines of Midwifery, by A. Hamilton, M.D. p. 96.

few cartilaginous nodules. The plexuses of lumbar and sacral nerves existed as usual, and were traced on one side through some masses of partly ossified cartilage into a groove on the inner side of the fossa containing the sac, where they presented a series of loosely hanging roots, on which some distinct ganglia were formed in the usual situation; the intercostal and lumbar nerves passed into the groove, and terminated also by free extremities: this groove was lined by a smooth membrane having the aspect of dura mater, and was at once recognised as the lateral half of the divided vertebral canal. No appearance whatever of nervous centres could be found.

On examining the thorax, the heart and lungs were found in their usual position, and quite natural; the pulmonary artery and aorta arose as usual,* but the latter organ divided shortly after its origin into a right and left trunk, which formed an arch on each side, and then descended, being separated widely apart, on the sides of the central cartilaginous masses, which probably represented the lateral halves of the bodies of the vertebræ; of these trunks the right was the larger; it gave off, near its origin, arteries to the head and upper extremity, afterwards several to the sac in the vertebral canal, and to the other viscera, and terminated below by dividing into two branches; the larger of these ran by the side of the bladder, and entered into the umbilical cord; the smaller passed down to the lower extremity as the external iliac. The left aorta descended on the opposite side of the trunk, gave off branches like the other, and terminated below by a large branch which became the external iliac of that side, and two or three smaller, which dipped into the pelvis, and appeared distributed to the parts contained in it; there was no umbilical artery on the left side. The external iliac veins were distinctly traced up some way, and received large renal veins, but I was unable to follow them to the heart. Two brachiocephalic trunks were formed by the veins of the head and upper extremities in the usual manner. The umbilical vein appeared to pass directly backwards in the longitudinal fissure of the liver, and not to branch out into any portal canals; but this was not quite satisfactorily determined. In the upper part of the thorax the trachea was seen descending from the cricoid cartilage; it was overlaid by two organs, one of which appeared to correspond to the thyroid body, the other to the thymus gland; the usual cartilages of the larynx were present, and the rima glottidis was quite distinct; it was overhung by a membranous epiglottis, in front of which was the tongue attached to the hyoid bone in the usual way; the cavity of the mouth was natural, the hard palate presented a deep groove in the median line, but did not open into the nasal fossæ; on each side were the grooves in which the sacs of the teeth are formed; these were most distinct at the anterior part; the nasal fossæ presented nothing remarkable, except that their septum was reduced to a mere vertical band posteriorly.

The abdomen was separated from the thorax by a well-developed diaphragm; immediately below this was placed the liver, which was large, but did not seem nearly so vascular as natural; it was divided irregularly into several lobes, two of which, of rather small size, projected backwards into the vertebral canal; no portal vein could be found entering the liver, but it received a large artery from the right aorta; it was provided with a gall-bladder, the duct of which soon became impervious, and terminated as a fibrous cord. Below the liver, a cœcal pouch, of small size, was found, from which two diverticula proceeded: one led to the small sac in the vertebral canal, and opened into it; the other ran downwards, as a kind of intestinal tube, into the pelvis, but soon terminated in a cul de sac; there was no appearance of an external opening.

On each side of the trunk the kidneys were found lying on well-developed psoæ muscles; they had the lobulated aspect, and were of large size; the ureters descended to open by slit-like orifices on the posterior wall of the bladder, the anterior wall of which was deficient, its margins being continuous with the abdominal parietes; the urethra was a mere groove formed by two folds of skin, and lined by the mucous mem-

* I regret very much that I removed the heart in order to examine its chambers more conveniently, before I perceived that there existed a right and left aorta; there can scarcely, however, be any doubt that they arose as above stated from the division of the ordinary trunk.

brane of the bladder; no other trace of external organs existed. Two organs of much smaller size than the kidneys, and of a flattened oval shape, were also found on the psoæ museles; from each of these a distinct cord passed down to the internal abdominal ring: I should suppose that these were rudimentary testes, as no trace of uterus or fallopian tubes could be found. On the anterior and superior part of each kidney a large supra-renal capsule was situated; a section of this showed well the relation of the cortical to the medullary substance, the former forming merely a narrow yellow stripe round the latter, the proportion being therefore the converse of what is found in adult life. Lastly, close upon the sac contained in the vertebral canal, just where it was joined by the intestine, there was found an organ having much the appearance of a pancreas.

The sympathetic nerve was not traced on the right side, but on the left it formed a large ganglion at the upper part of the thorax, from which a slender cord ran down on the side of the divided vertebral column; it presented two or three well-marked ganglia in the lumbar region, and gave off several distinct communicating branches to the intercostal and lumbar nerves.

The following account of the birth and attendant circumstances of this fœtus has been kindly furnished by Dr. Barker, of Bedford, in whose practice the case occurred.

"Attended Mrs. —— in the evening of Feb. 6th, 1846. On arriving at the house, found that the child was born, and was informed by the women in attendance that the child was not right; the placenta also had come away. On lifting up the bed-clothes I found that the fœtus was an acephalous one. Immediately before the birth of the child the membranes had given way, followed by the escape of an unusual quantity of liquor amnii; the bed and body linen was saturated, and it had penetrated the bedding, reaching the floor in large quantities. She stated that she considered that she had ten weeks to go, that she had felt the movements of the child that afternoon, also that her last child was deformed, and that on that occasion she also passed an immense quantity of "the waters." Has given birth to two natural and well-formed children. The fœtus (of which the accompanying is

a correct sketch by my friend Mr. Rudge), appears to have the body of one at a period between the sixth and seventh month, but is deficient of cranial bones. The face appears as if placed horizontally upon the surface which would be formed by cutting through the neck on a level with the shoulders; there is therefore no neck; the eyes are prominent and more flat-

tened; the tongue slightly protruding between the lips. Hanging down behind from the upper part of the body is a large dark-coloured mass, apparently cerebral, enclosed in membranes, through which can be seen some blood-vessels and markings of convolutions. Below this mass, and to within an inch and a half of the lower extremity of the sacrum (trunk), the shortened spinal column appears to be deficient posteriorly, allowing the escape of a similar dark-coloured mass of cerebral matter which would appear to correspond with the cerebellum." The fœtus was still-born, and the lungs presented no appearance of respiration having taken place.

Remarks.—The case above detailed seems to belong most properly to the class of pseudencephalic monsters, as defined by M. Geoffroy St. Hilaire, but it also presents some remarkable peculiarities which do not appear to be distinctive of any particular class. The description which the French anatomist gives of these monsters is as follows: "The cranium is open in its whole width above and behind, and its base supports a vascular tumor; the spinal canal is like the cranium widely open, and the fissure is prolonged to the lower part of the dorsal, or even (and most frequently) to the lumbar region. The laminæ of the vertebræ are disunited, widely separated, thrown outwards, and spread out horizontally; their appearance collectively has the form of an elongated table, hollowed out in its middle into a shallow longitudinal groove, the sole vestige of the vertebral canal; the spinal cord, like the encephalon, has disappeared, and most usually is not even replaced like it by a vascular tumor. The skin not only does not cover the vertebral region, but it disappears at some distance from the vertebræ."

To this description the case above described corresponds, I think, sufficiently well: it presents in addition, however, two circumstances which are of still rarer occurrence, and to these I would now direct attention. One is the nearly complete division of the trunk into two lateral halves, by a deficiency of the bodies of the vertebræ in the middle line; this division extended throughout the whole length of the spinal column, though the sacrum was not affected to the same extent as the other regions; the base of the bone was divided, and the two halves were moveable on each other, but they were not separated widely apart, as was the case with the half-bodies of the true vertebræ: a malformation of such extent as this has not, I believe, hitherto been met with. M. Geoffroy St. Hilaire refers to two cases only, in his class of anencephalic monsters, in one of which the thirteen first vertebræ, and in the other the seven cervical, were thus divided. In one such case the œsophagus was found lodged in the space intervening between the two halves of the spinal column; a displacement which existed to a still greater extent in the case we are now considering, where the spleen, and what was probably the stomach, were found in the same situation. The cause of this extraordinary defect is merely matter of conjecture; it cannot, I think, be explained by supposing an arrest of development of the bodies of the vertebræ to have taken place, since they have from the first a single point only of ossification; I should rather suppose that the formative process must have been deranged from the earliest period, perhaps when the dorsal laminæ were forming at the sides of the primitive groove. The second peculiarity to which I would advert is the existence of a separate arterial trunk (or aorta) for each side of the body: these appear to have arisen from the division of the usual aorta of the left ventricle; and their peculiar disposition may, I think, in some measure be elucidated by reference to the excellent researches of Rathkè, for a very clear abstract of which we are indebted to Mr. Paget's report of last year. From these it appears that, at a certain period, when the single ventricle has become divided into two chambers, three of the five arterial arches, which originally existed on each side, have disappeared, leaving, however, in their place, a vessel which is the common carotid. The single arterial trunk then becomes divided into two by a septum in its interior; these secondary tubes are the aorta and the pulmonary artery; the former pours its blood into the *fourth* pair of the arches, the latter into the *fifth*. The aortic arches (fourth pair) unite below to form a dorsal aorta;

but from them on each side are developed vertebral and subclavian arteries: while, however, the left arch persists, and becomes the true aorta, the right arch gradually wastes away, leaving only its proximal portion as an arteria innominata. Now the disposition of the vessels found in the fœtus described above seems to correspond to the condition just mentioned: the metamorphosis was interrupted before the wasting of the fourth *right* arch, which thus remained persistent, and the non-coalescence of the two arches below into a single vessel, was probably due to the remarkable indisposition to union along the median line, which prevailed throughout the trunk. It deserves notice, I think, that although in the trunk the tendency to separation in the median line was so very marked, this did not appear to prevail in the head; the hard palate, though presenting a deep groove, was not divided, nor did the soft palate present any such appearance. These, however, are not unfrequent malformations, and it was reasonable to expect that they would have existed here.

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## OBSERVATIONS ON LIGATURES AND ANEURISMS.

By T. Wilkinson King,
Lecturer on Pathology at Guy's Hospital.

[Concluded from p. 859.]

Sect. IV.—*Mere diminished distension leads aneurisms to subside.—Coagulation only in the way.—Why Brasdor's operation succeeds or fails.—How a considerable artery declines with a change of current (clots organizing?)—General doctrine of tensions in health and disease.*

I have now only casually to refer to a few opinions relative to aneurisms and their treatment, the fallacy or insufficiency of which seems more or less to involve the questions I have dwelt on.

Home, or probably Hunter, makes a plain inference, "that simply taking off the force of the circulation from the aneurismal artery is sufficient to effect a cure of the disease, or at least to put a stop to its progress, and leave the parts in a state from which the actions of the animal economy are capable of restoring them to a natural one."—Lond. Med. Journ. viii. 130, 1787.

The common theory, that the cure of aneurism depends on some previous quiescence of the blood facilitating coagulation, or that coagulation precedes the cure, is to me very problematical, and, I might add, apparently needless.

We have, as I conclude, to a demonstration, a diminished impetus of the blood entering the sac, which is less dilated and more able to contract. We have also, all around it, increased impulses and nutritions. The balance of internal and external forces is altered. Distension is diminished, compressions prevail, and every step gained makes the remainder still more easy, and the return of distension more difficult.

The less coagulation in the repairing sac, the more rapid its contraction; it is, in truth, only the fluid that ever yields to pressure, transudation, or absorption; first the live blood, and then partially the fluid in the clots. Thirteen years only induces a slight contraction of the laminated mass in a cured aneurism. It is ever brown fibrin.

Of course it is not intended to apply this to diffused extravasations, whether coagulated or not.

The aneurismal sac wastes as it shrinks, and almost without limits, unless some internal persistent solid arrests its decline by a measure of counter-tension.

Why does an open abscess contract, or one whose fluids are absorbed? There is the pressure of organs or tissues on all sides; the force of capillary injection equally tending towards its interior, where resistance has ceased; and there is, moreover, that semi organic or half physiological power which belongs to inflamed or over nourished substance, as the morbid action subsides. Thus a once tumid gland may contract almost to the obliteration of its arteries; an hydatid's cell is reduced to a shell of dried debris fossilized by transudations, or many inches of granulating surface are reduced to an insignificant cicatrix.

Aneurisms so disappear without coagulation. Dilatation gives place to contraction. A few grains from the preponderating scale cast into the

lighter reverses the balance, and the sac may contract to a cord.

A modern surgeon of distinction has ventured the theory that the lamellar coagulum is always deposited externally, or by superposition—that is, that each new layer forms on the outermost layer, or between it and the sac, so that the inner layer of the old solid must be the oldest formation. This would oblige us to suppose that the more expanded layer is ever the nucleus of the less. In fact, the *smaller layer is external—i. e.* with, perhaps, specific exceptions.

When the operation of Brasdor succeeds, the contraction of the sac may yet seem to be in part owing to easier collateral circulation; but this is not all. The sac diminishes with sufficient rapidity, as the ligature is tightened; the resistance within declines (in force and mass), and the walls increase in power to contract.

Now must it not be true that the systole of this sac, or its refluent gush, is expended in a measure in opposing the current which would else produce its full subsequent diastole?

Suppose a syringe, with a limited power, dilating an elastic bottle; suppose the same acting on the bottle when in full systole, or even near the very end of the systole, and again suppose the same bottle having another free outlet, must we not expect different results?

In aortic aneurism the syringe prevails over the bottle; in aneurism of the carotid, with a distal ligature, the bottle, well nourished, may prevail over the syringe, whose force takes another direction.

Mr. Wardrop seemed to cure a fearful aneurism at the bottom of the neck in an old lady of 75, by ligature of the carotid above. The thread separated towards the fifth week. Dr. Bush did the operation for carotid aneurism on a female of 36, with success. The separation was on the 19th day. An aneurism of the innominata seemed to be cured in a man of 30*, by a ligature on the carotid, which hung on three months. These cases are all recorded by Mr. Wardrop (on Aneurism).

Dr. Campbell's operation was like the last. The tumor at first subsided, but on the 19th day reappeared, with pneumonia, &c. fatally. The aorta was involved in the dilatations.—(Hay's Journ. July 1845.)

Mr. Wickham tied the carotid and subclavian for innominata aneurism. The man was 55, and wasted. The carotid ligature produced direct relief; it came off in fourteen days, and six or seven weeks later, dyspnœa, &c. led to the tying of the subclavian, with some fair alleviation. The silk came away on the 22d day, and the wound healed. Seven weeks from the last operation the sac burst outwardly, and the next day he died. The root of the innominata was pretty sound. Brasdor's plan was here perfected, but the tumor went on as an aortic aneurism. — (Med. Chir. Tr. Vol. xxiii.)

Sir Everard Home tied the inguinal artery for aneurism of the external iliac, but without at all arresting the disease.—(Vide foot-note, Med. Gaz., Vol. i. p. 88.) Dupuytren tied the axillary, but bleeding was fatal, as I have related, Med. Gaz. Jan. 1846, p. 596.

Thus it appears the principle of Brasdor is of limited application, and there is some show of reason why different cases should succeed and fail. May we not suppose that an aneurism with two outlets shall, when one outlet is closed, have systolic reflux enough at its entry to lead to cure? *i. e.* of course, in particular cases.

This kind of reflux may operate under other circumstances. Is not this the history of the epigastrics after birth, and of the artery on either side of a ligature in the absence of branches and of clots? (The clots obviate mere adhesion; their final organisation is a baseless fancy*.) The artery is found contracting and wasting almost to its very root or source.

Elastic tubes always emptying themselves at one end and filling at the other, the cardiac dis-*tension* must decrease from the last point. In other words, a tide wave in elastic tubes

* Mr. Evans' case, of Belper. Eight days from the operation the brachial became plugged; by arteritis (?).

* Some very able and even profound observers have described solid extravasations under the periosteum, in scurvy, with straight permeating vessels from the bone to the membrane. This is exactly what should appear when the effused blood leaves any soft connection between the surfaces it has partially separated. I am glad to find a very limited confidence expressed in this possible proof of solids becoming organized.

would decrease in force as it flows, to exhaustion. May not frictions, tortuous canals, varying external pressures, add to this?

Mr. Hodgson and Sir A. Cooper record instances of the closure of the common carotid and subclavian by the pressure of aortic aneurisms, and Mr. Wardrop has very happily shown the dilatation of a primitive artery compressing a secondary trunk; and this comparing the tensions in the two cavities may be reasonable, but, as I have elsewhere hinted, it is a physical mistake to suppose that the *dilating* sac may compress the artery which supplies it. The arterial distension decreasing from the heart cannot be greater in the sac than in the tube from which it is filled, but is rather less. The increasing sac grows all ways as parts yield, but the artery is least of all capable of yielding to become compressed.

The study of the natural effects of physical extensions and pressure, coarse or minute, is hardly yet begun; the pathology of the case is still more in the dark, yet nothing is so fundamental and essential in practice. Here is, in very truth, a *principle of the profession.* Though constantly adverting to the doctrine, I leave its systematic display to those who are expert at borrowing. What I here advance will find its corroboration in former papers.—(Vide Med. Gaz. May, 1845, &c.)

Very coarse observation may render the influences of tension not less manifest than even the microscope. The cartilaginous fibres of the patella are perpendicular to the pressures which they endure; but when the bone is divided transversely, and the fragments are separated, the uniting medium and cartilage fibre itself will assume a very different arrangement. Extension now operates, and ligamentous threads are stretched from bone to bone and from cartilage to cartilage.

It will be long difficult to set the boundary between physical and other considerations; yet this will probably be the first means of marking the limits of nervous influence as well as of those of more doubtful agencies; to wit, sympathies. Final causes, as Bacon says, will be found, like the fabled vestals, dedicated to the deities, and barren. An arm is torn off, and two or three inches of artery hang out of the stump, because the giving way was at the weakest point, namely, close above the root of the first material branch next below the main laceration.

Mr. Warton Jones describes a repairing tendon at the end of the sixth week, and seems to me pretty plainly to demonstrate the agency of tension in converting the organic cell into ligamentous fibre. "The substance uniting the ruptured tendon, firmer than cellular tissue, less compact than tendon, is not unlike the tissue of fibrous tumor (a valuable remark, again, as to the influence of tension on molecular growth). It consists of fasciculi of fibres, closely arranged, and interwoven like a felt work. It cannot be teazed out so easily as tendon; and the fibres that are isolated do not present such an even contour as those of regular tendon. Acetic acid, without reducing the tissue to a uniform jelly, as it does cellular tissue or tendon, rendered the fibrous structure transparent, and thus brought into view nuclei in various stages of elongation into nucleous fibres. (We should look for some similar changes in the walls of cysts, in solid tumors, and in all the simple tissue that becomes sufficiently stretched —normal or anormal). The yellowish-red colour of the new tissue is owing to numerous minute orange coloured corpuscles dispersed throughout its substance," (old blood?)—Med. Gaz., vol. xxxi. p. 267.

I am happy to think that the doctrine of physical tensions is at least beginning in our physiology. How different are the fluid pressures in artery, vein, and absorbent; how different in the several parts of any of the systems. The coats of each particular vessel are just criteria of the tensions they endure. We have great need to observe the evidence of varied nutrition of arteries, &c., in the several parts of a body 5 or 6 feet high, when they become active, whether naturally or morbidly.

How different, again, is the venous distension generally in repletion and hæmorrhages. So, once more, in different frames, as the wide and narrow-chested. And if fluid pressure is seen to affect vascular transudations (arterial, venous, or lymphatic), is it not equally evident that the integral state of molecular matters also guides the attrac-

tions which eat up, modify, or build, every tissue? Here humoralism mingles with physics. Tensions determine the form of bones, and convert simple cellular adhesions or unions into ligament; but the purity, quantity, &c., of the products, depends on the health of the blood. It is hardly possible to doubt that tension has much to do with the tissues of cysts and tumors.*

SECTION V.—*Treatment—ligatures—mere exposure of the artery—flexing the ham—Valsalva.*

After discussing so many points with little scruple, I may not hesitate to admit that, with respect to the main practical point of the treatment of aneurism, I would defer much to experience, and *look still more widely for the appropriate measures for different cases.* Ligatures are far too dangerous for us to be satisfied with them solely. The successes from pressure on the femoral, though few, claim a foremost place in our review of remedies. Mr. Bellingham has fairly advanced with an account of 12 cases,† that pressure may be our sole means; that it is singularly safe; that its failure rather facilitates ligature; that merely to narrow the artery may suffice; and that to press different parts (as of the femoral), alternately, is a new and material aid.—(Dub. Med. Press, March 19, 1845). Here we find strong indications as to the treatment of other cases, even when such pressure is not available.

As to the question of tight or gentle ligatures, I conceive it ought finally to settle itself, and by no means hastily. The exact degree of tightness to be advised must ever present a difficulty. It may be considered a fair present success if attention is only made alive to the subject. The age and constitution of the subject, the vessel concerned, and its particular state, must be well considered. The expressions of Hunter and his followers will be found to merit attention.

I think it deserves especial remark, that where main arteries have been secured firmly with two threads, and a division of the vessel effected between the two, the separations have been early, as I doubt not the ligatures were especially tight.

We know that many arteries are unfit to be the subject of tight ligatures. We know that contracting granulation around large vessels may at least diminish their capacity, that inflammation of the tissues still farther induces contraction, and causes massive coagulation within.

Mr. Porter (Dublin Journ. Med. Ch. Science, vol. i., p. 25, 1832) records a very singular result of operation on the subclavian and innominata arteries. Attempting to tie the former for aneurism, he was led on to near the root of the latter vessel, and after very difficult endeavours, during an hour and a quarter (this narrative is quite satisfactory), he was compelled to resign all hope of arresting the current into the dilatation. The wound discharged moderately and healed well. At the end of two months the aneurism had steadily subsided to one-fourth of its former size. Now I am far from thinking that the contracting of a wide granulating cavity can have had no share in effecting this happy cure. We grow more and more assured that much less than the complete obstruction of the artery is sufficient to the cure of aneurism.

A popliteal aneurism appears every now and then to decline spontaneously.* May we not conceve that only a moderate flexure of the knee-joint, repeated or persevered in, might suffice to produce a sufficient increase of collateral circulation? At least we must be ever mindful that this may be all that is required.

The opinions I have maintained will not seem without some just opposition to the treatment of Valsalva, which must ever leave the tensions within the sac greater than those compressing it, except for the brief period that preceeds the wasting of the sac, consequent on its diminished tensions and nutritions. We should reflect, too, that the new sac is more than any part prone to waste with depletion, that it

* "Next to the cancerous globules, the element met with in the largest proportion is the fibrous tissue, which may even be the predominant part; the fibres have sufficiently marked contours, are very minute, scarcely exceeding 1-800th of a line, and are generally less tortuous than ordinary cellular fibres."—*Lebert, Med. Chir. Rev.* Jan. 1846.

† Mr. Stork cured another (MED. GAZ. 27, 3, 1846.

Dupuytren also cured a case, by pressure, in three weeks.—Leçons Orales, tom. iii., p. 6: and the successes are multiplying.

* See Cases and Reflections by Mr. Ford, London Medical Journal, vol. ix. (1788), p. 142.

needs rather to thicken, and especially if it continues to dilate.

I would hope that the headings of the preceding *sections* preclude the want of any summary in this place; and I shall yet hope by degrees to illustrate my views to more practical effect.

36, Bedford Square.

## SURGICAL CASES.

By William Brown, Esq.

Callington, Cornwall.

### *Large Abscesses over the Scapula, and in the subscapular region.*

Eliza G——, a fine child, about 3½ years old, though rather of a lymphatic, or lymphatico-strumous, habit and appearance: first brought here on the 20th of November, 1845.

About ten days previously, the weather being very cold, she had followed her father towards the farm; but, not being observed by him, she at length sat down by a gate and cried herself asleep, with the back part of the right shoulder resting against the gate, and receiving the current of air. She was thus situated several hours before being found. She had shivering, and afterwards became feverish. She then, of a sudden, began to complain much of the right shoulder. She would keep the arm hung constantly down by the side, afraid to move it and of having it moved. On the morning of the day on which I saw her, a swelling was noticed over the scapular region. This swelling was excessively tender and painful. The friends thought that she was suffering from rheumatism.

I found her in a state of acute febrile excitement. The swelling over the right scapula and adjacent parts was great, but it was not defined in outline. The scapula itself appeared and felt as if lifted or thrown off from the chest. I ordered a powder of calomel and pulvis antimonialis comp. every ten hours, and a dose of antimonial mixture, with spirit of nitrous æther, and a little colchicum wine, five hours after each powder; also a hot bath at night, and hot poppy-head fomentations frequently to the swelled parts.

The friends neglected to communicate concerning the child until the 28th, when I was requested to visit her. She was then pale and feverish, looking hollow-eyed, and much reduced; but the tongue was clean, the bowels regular; in fact, the previous active feverishness had subsided. The chief swelling was much contracted in its circumference, but now it was quite circumscribed in its outline, and more prominent, though not really pointed. It was as large as a good-sized orange, though not so projecting. It was situated chiefly over the infra-spinous fossa of the scapula. There was scarcely the least redness or discoloration of the skin, and the swelling was not hot. But it was very tense and resisting, and very elastic. I diagnosticated pus, though deeply situated. There was also another tumefaction, which appeared to be divided off from the original large and more diffused swelling, but it was less distinct, and was not well defined; this was situated on the left side of the spine, considerably below the scapula, nearly opposite to the left kidney.

I plunged a bistoury into the scapular swelling, making a free opening. About three ounces of greenish-yellow. smooth-looking, tenacious pus escaped.

Linseed meal poultices were ordered to the part.

Dec. 1st.—The abscess completely gone down, and the incision looking well; appetite moderately good. The swelling corresponding to the left kidney is more distinct, and is now circumscribed in outline; it is very tense; it threatens another abscess. There are copious perspirations, and when the wound is dressed there is a degree of faintness.

> Tartar emetic, mixed with a mild compound iodine ointment, to be rubbed over the second swelling three times a day. A mixture of iodide of potassium, syrup of iodide of iron, and syrup of poppy, to be taken three times a day. To have a little negus also.

Dec. 5th.—General health much improved, but the second swelling not dispersed, though at some little distance from it (not *upon* it) there are large pustules from the ointment. In fact, there is now pus in this swelling likewise; although, as in the other abscess, the integuments are not discoloured, and the swelling is even less of a conical or pointing character.

I freely introduced the bistoury. As in the other abscess, the integuments were very resistant to the instrument, and the matter lay deep. From this swelling also a surprising quantity of the same kind of pus welled out after the bistoury, and continued to pour out for a length of time. The escape of the matter was greatly accelerated by the child's violently crying and struggling.

Poultices to the part. To the incision for the first abscess a simple dressing of compound lead cerate. The mixture to be continued, with the negus.

By the 10th of December the child was dressed in her usual clothes, and moving about the house. She continued to do well, with the exception of having some ordinary boils from time to time.

Remarks. — One of the striking features of the above case was the dense, resisting character, and sluggish state of the parts covering the abscesses, together with their thickness. The resistance was so great that, immediately the bistoury reached the cavity of the abscesses, nothing could prevent it from going with a jerk; and, in the resistance of the scapular abscess, I distinctly felt the instrument touch the scapula. Indeed, the free opening of these abscesses required some boldness; but, if it had not been effected, the result would have been serious. My own impression is, that the matter might even have found an easier progress in depth, than towards the surface; in the one case, perhaps, affecting the scapula? (Is it conceivable that an abscess arising like the second of the two described in this case could become an internal or psoas abscess?)

*Case of Abscess, Sinus, &c. of the Back of the Hand; illustrating the serious consequences of wounds to the hands in miners.**

W. Ralph, a healthy man, ætat. about 27, a miner, received a blow and an abrasion on the middle joints of the ring and middle fingers of the left hand, in his work. Great heat, pain, and swelling of the fingers, the back of the hand, &c. ensued, together with a considerable amount of general constitutional disturbance. I saw him two or three days after the accident. The abrasions required no treatment. He had been bathing the hand, and was in bed. He was ordered to remain at rest in bed for a day or two, to continue hot fomentations to the hand, with a bran poultice in the intervals. He had aperient medicine.

I did not hear anything more of him for three weeks; consequently, I concluded all had gone well. But I afterwards found that the swelling of the parts had continued to increase, and that an abscess had formed involving the whole dorsum of the hand. This had burst just behind the metacarpo-phalangeal articulation of the middle finger.

The state of matters at the period I now speak of (namely, after three weeks from my first seeing him,) was a round aperture, with a papilla in its centre, in the situation where the abscess had burst; and this discharging a small quantity of sanious fluid: there was also a swelled, œdematous, and somewhat livid appearance of the integuments covering the back of the hand; a stiffness in bending the two middle fingers, &c. I tried for a few days dressings of zinc ointment, and a slight bandage. At the end of this time, however, the opening remained as before. I then introduced a probe, and found that there existed a sinus, extending backwards, and to the left, to the base of the metacarpal bone of the little finger. This sinus I laid completely open, with a sharp-pointed bistoury, on a director. There was very copious bleeding, particularly from one vein (the vena salvatella), at the posterior end of the incision. Indeed, it was necessary to use pressure with the fingers over a fold of lint, and the application of cold water for a considerable time, to prevent the flow of blood from continuing and recurring. At length, a slight compress of lint was secured by a few turns of bandage, and the patient was enabled to walk home.

On the second day I removed the dressings, and cleaned and bathed the incision, and the hand. There was no bleeding. The œdema of the back of the hand had nearly disappeared. The wound was then to be dressed with lint and warm water, but with a warm bread poultice outside, instead of oil-silk.

* Vide Med. Gazette, No. 40, New Series, age 206.

In two days more the sloughy matters of the sinus were so well thrown off, that the "red wash" of University College Hospital (a weak solution of sulphate of zinc, coloured by a little tincture of lavender), was substituted for warm water. The wound soon got well, and the hand gradually lost its stiffness.

The above case is an example of the unfavourable character which any wound or scratch to the hands in miners is liable to assume; the bad consequences arising, as is believed by the men themselves, and as is most probably the case, from the injuries being "poisoned" by the minerally impregnated waters to which the hands of miners are exposed.

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PARTICULAR FORM OF FISTULA IN ANO.

THERE is another very different appearance of the external opening of a fistula from what I have described: instead of the little fungus projecting from the opening, and the opening itself small and hard round its edges, you will sometimes find the opening a mere slit in the skin, the edges of which are flabby, and sometimes over-hanging—the slit sometimes the length of the eye of a probe;—the patient's pulse is about 96 in a minute;—if you operate on this patient, this will happen—that although your incision was but just of the proper extent when made, yet (and it is a curious fact) in a few days it will be like a chimney;—the wound will have opened to such an extent that you can see up into it—it will seem as if you had scooped a large piece out of the side of the anus,—there will be a profuse discharge from it, and dreadful pain. I remember a man coming to the hospital one morning in this state, and one of the pupils, who just saw him, asked him if he was cut for fistula with a spade! In such a case as this the patient cannot live beyond three weeks after the operation. — *Professor Colles' Lectures.*

[REMARKS.—In this, as in many other of Dr. Colles' statements, it would frequently have added much to the value of the lectures, had he mentioned upon what number of cases he formed his observations. There occasionally appears to be reason to believe that he has deduced very positive general rules, either from the experience of single cases or from a very limited number of instances. Still we may be mistaken in this, and it is certainly very evident that the lecturer himself was perfectly satisfied of the sufficiency of the data upon which he formed his axioms.]—ED. GAZ.

# MEDICAL GAZETTE.

FRIDAY, MAY 22, 1846.

OUR readers may remember, that about a year since, a complaint was made at one of the Metropolitan Police-offices of a nuisance occasioned by the disinterment and burning of bodies in one of the burial grounds of the Parish of Clerkenwell. The Spa-Fields cemetery acquired, for a short period, considerable notoriety; and the desecrations disclosed by the evidence of many witnesses, tended to place in a strong light the immorality and indecency which necessarily attend the interment of the dead in the midst of close and crowded populations. The attention of the Home Secretary was drawn to the subject; and the result was, that the parties interested in carrying on these abominations, were indicted for a nuisance. On the 8th April, 1845, when a discussion ensued in the House of Commons on the subject of "Interment in Towns," Sir James Graham said, in answer to the objection that the practice was inconsistent with public decorum:—"He was not able to see that any further legislation was necessary in order to check the practice. A flagrant instance of this abuse had taken place lately at the Spa-Fields burying ground. On that transaction coming to his knowledge, he had thought it his duty to order a public prosecution to be instituted against the parties concerned. Those parties would be tried by indictment before a public tribunal; and if the facts were established, the law, as it stood, was able he was confident to grapple with them."

Before shewing how the law as it stands has "grappled" with this most nefarious case, it may be just proper to

state a few of the particulars which came out during the investigation.

The Spa-Fields burial ground occupies two acres, and has been employed for the purposes of interment upwards of fifty years! There have been as many as thirty-six burials in one day, and one witness deposed before the Police Commissioner appointed by Sir James Graham to make the inquiry, that as many as *forty-five* bodies were buried in one day, besides "still-borns;" and from an account kept, there were buried in one year, exclusive of still-born children, 2017 bodies! After this, we cannot be surprised to find it stated that, in digging fresh graves, dead bodies recently interred should be cut through. The witness acknowledged, that in digging a grave seven feet deep, he had often disturbed and mutilated seven or eight bodies, severing head, arms, legs, or whatever came in his way! In this way, he raked out of a grave at one time, as much as one and a half hundred-weight of human flesh! The coffins were taken away and burnt with pieces of decomposed flesh adhering thereto. This process of human cremation was actually witnessed by two police constables. The coffins that were fresh, were cut up for shoring up other graves! Admitting that this witness, from being a discharged servant, may have been guilty of exaggeration, still the greater part of his evidence was abundantly confirmed by the depositions of other persons residing in the neighbourhood of the burial ground. The result appears to have been, that more bodies were sent for interment in two years than the ground could hold; and the profits as a speculation, could, therefore, only be ensured by continually removing and disposing of those bodies which already occupied the graves: the coffins and coffin furniture becoming the perquisites of the grave-diggers!

During the discussion in Parliament respecting Interments in Towns, the Earl of Lincoln, the great supporter of the *Health* of Towns' Bill, (!) but the strenuous opponent of extra-mural burial, advanced as a strong reason for the maintenance of the present practice, that:—"Whether in town or country, there was a general wish to be buried *near one's fore-fathers*, and people liked to have their friends buried in their own neighbourhoods: *of that consolation he did not think that they ought to be deprived.*" The disclosures relative to the Spa-Fields' practice, however, shew that this "consolation" has substantially no existence. The inhabitants of the Parish of Clerkenwell have indeed for half a century been *buried* near their fore-fathers; but their heads, arms, and legs have been soon afterwards indiscriminately chopped up and burnt to make room for others who followed them. Is this the sort of "consolation" to be held out for the continuance of metropolitan interments?—Is this an argument for maintaining the practice of thrusting 9000 dead bodies into a space which could not decently hold more than one-third of that number? And yet, judging from the depositions and documents before us, this is all that the dying have to expect from those who argue eloquently for the compulsory formation of sewers and removal of cesspools; and at the same time contend for the necessity of burying the metropolitan dead under the most revolting circumstances! The "consolation" in plain language amounts to this:—the half-decomposed remains of husband and wife, or parent and child, may be eviscerated and burnt in the same furnace! The small extent of the ground, compared with the number of interments, and the period which is required for decomposition, incontestably prove that no other fate can await those

whose bodies are consigned to such a receptacle of mortality.

Let us now look to the results of the public prosecution conducted without any public prosecutor,—the interests of the community being left to the chance holder of a brief, and let us see how the law, as it stands, has "grappled" with the Spa-Fields nuisance. At the trial which took place on the 19th June, 1845, the Court of Queen's Bench ordered that the jury should find a verdict of guilty on one count, with a verdict of not guilty on the rest of the indictment, subject to the award of a barrister to determine in what manner the burial-ground should be used in future. The decision of the arbitrator has just been published, and is to the following effect :—

"The arbitrator has apportioned a part of the ground in a plan for burials, for a period of ten years, and has ordered that, in the other part, the soil shall not be disturbed for the time mentioned. After giving a full description of the places where burials may take place, the arbitrator has made certain regulations which now come into operation :—'No coffin of five feet or upwards in length shall be buried in any grave not deep enough to leave over the upper part of such coffin a depth or thickness of soil of five feet, calculated from the general level of the soil there; and no coffin of less length shall be buried in any grave not deep enough to leave over the upper part thereof a depth or thickness of soil of four feet, calculated as aforesaid; and I further award, order, and direct that coffins may be buried one or more deep in the said parts of the said ground, and as near to each other in a vertical direction as the said defendants, owners, lessees, and occupiers, or other persons burying, may deem fit, not breaking or disturbing any coffin or body; but that where any coffin has been buried for one year, the said defendant and others shall not, nor shall they suffer or permit any person or persons to bury as aforesaid over such coffin, nor disturb the ground over the same for the purpose of burying there; and I further award, order, and direct that there shall be in a horizontal or lateral direction a space of one foot at the least between coffins buried in the said ground; and I further award, order, and direct that the said defendants, owners, lessees, and occupiers, shall not, nor shall they suffer or permit any other person, to remove or disturb any coffin, body, or part thereof, as well those now buried as those that may hereafter be buried, until the same shall have been buried for the space of ten years from the time of such burial.' Mr. Bramwell has likewise declared, by his award, as to the other parts of the ground not comprised in the plan, that after the period of ten years burials may take place therein, subject to the rules and regulations above mentioned."*

It appears to us that a question of this kind should not have been referred to a lawyer, or supposing this to have been considered necessary for the protection of vested interests, there should have been associated with him one or more competent medical men;—for the question is substantially one of medical police, and not of law. As in all other cases, however, a legal commissioner was appointed, and hence the result is just as satisfactory as if a disputed question on the law of entail had been referred to a respectable physician, surgeon, or general practitioner! Thus the lessees of the burial ground are to enjoy the privilege of burying one or more coffins in the same grave, as near to each other as they may deem fit, without breaking or disturbing any coffin or body, leaving at least four feet, and in the case of adults five feet, of soil above the upper coffin, calculated from the general level of the cemetery. Horizontally or laterally, there must be at least a space of one foot between the coffins: and after ten years there is to be an *ad libitum* power in the lessees, of removing and destroying any coffin,

* Times, May 14th.

body, or part thereof. It appears to us that these rules will have no effect in putting a stop to the indecencies proved to have been perpetrated. Who is to see that they are properly carried out, and what is to be the penalty for their infringement? Then, again, *Quis custodiet ipsos custodes?* If a cemetery be so occupied that the indecent practice of burying a series of coffins in one grave is to be permitted —that a *foot* must be specified as the minimum distance for placing coffins horizontally, — that within one year any number of coffins may be piled on each other in close proximity, and that within ten years the remains may be raked out, and the grave made ready for a new-comer, so that the consolation of lying near one's forefathers becomes a mere decennial possibility—it appears to us that it should be altogether closed.* In our judgment the award of the arbitrator is based rather upon a consideration of the legal rights of the lessees, than of the decency which should accompany the interment of the dead, or of the necessity for attending to the health of the living.

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We lately called attention to the case of a female, apparently insane, who had been brought before a police magistrate on the charge of annoying and threatening the Earl of Arundel and Surrey on absurd pretences.† The case not having reached "a homicidal climax," it was thought proper to turn the defendant loose, in order that she might have the option of ridding herself of the imaginary conspirator against her peace and comfort. Taking the report of the case to be correct, it was impossible to doubt that this woman was labouring under a complete hallucination, and the result has confirmed this opinion. The magistrate has only tardily taken that step which he might, in the first instance, have taken under the 1st Victoria, cap. 14, *i. e.*, of ordering an inquiry into the state of the defendant's mind, and sending her to a lunatic asylum, or handing her over, under proper recognizances, to her friends. The latter proceeding, however, was certainly rendered somewhat difficult by the fact, that it was impossible to say whether the mother who appeared to give evidence in favour of the defendant was not really more insane than her daughter.

On the last examination it was proved that the prisoner had had large holes dug in her garden, to conceal herself, and to frustrate the Earl of Arundel's supposed attempt to carry her off—that, according to her assertion, he had a vessel waiting in the river for this purpose—and it was deposed that when she was reasoned with on the subject, she became very angry, and threatened to shoot the superintendent of police! Dr. Munro, Dr. Mayo, and Dr. Sutherland, had examined the woman, and pronounced her to be insane. Dr. Sutherland stated that he considered her to be a dangerous woman, and unfit to be at large. Lord Arundel proved that the whole of her statements respecting himself were founded on a delusion; and the magistrate told the defendant that she must put in bail to keep the peace.

* The soft parts of the body in overcrowded grave-yards are very apt to pass into the adipocerous transformation, and thus to be preserved much beyond the period within which the legal arbitrator appears to consider that the human body is reduced to its elemental dust. We have seen lying in graves, nearly perfect skeletons of individuals who had been buried for twenty and thirty years. Is all feeling for the disturbance of the remains of the dead lost to the living relatives, when a child, a parent, a husband, or a wife, has occupied its narrow tenement for the short space of *ten* years? Let each answer for himself, and if, as we think the answer must be, in the minds of all right-feeling persons, in the negative, what becomes of the legal arbitrator's decision?

† Page 732.

The whole of the proceedings reflect anything but credit upon the mode of administering the law in such cases. With the melancholy examples before them, of the very easy way in which these lunatics convert any innocent person into an imaginary conspirator, and take vengeance upon them, we think it is the duty of magistrates to be especially watchful that the lives of the public are properly protected. The Act referred to was made expressly for the purpose of authorizing them to commit to gaols or houses of correction, persons who were apprehended under circumstances that denoted a derangement of mind and a purpose of committing a crime. The clear evidence of insanity and of probable danger to the party threatened, might, had the magistrate chosen to call for a medical opinion, have been just as easily brought out on the first as on the last examination. It can be no matter of surprise that persons should be shot in the open streets, if cases of this description are thus summarily dismissed; and it appears to us that the prosecutor in this instance, owing to the indifference of the magestrate, has had a narrow escape from the fate of the late Mr. Drummond.

## Reviews.

*Abstract of Researches on Magnetism, and on certain allied Subjects, including a supposed new Imponderable.* By Baron von Reichenbach. Translated and abridged from the German, by William Gregory, M.D. F.R.S.E. Professor of Chemistry. 8vo. pp. 112, with plates. London: Taylor and Walton. 1846.

This is an extraordinary essay, whether we regard the mysterious nature of the subject, or the clear and scientific manner in which it is treated. We shall by no means pledge ourselves to the adoption of many of the conclusions which the author is led to draw from his singular experiments, nor can we admit that they are so entirely free from fallacy as the narration would lead us to suppose; but there is quite sufficient, in finding the names of Reichenbach and Gregory attached to this treatise, to induce all who are desirous of exploring the unknown depths of physical and moral science, or of advancing another step towards our knowledge of mind and matter, to examine attentively the remarkable phenomena which are here described.

From the terseness of style adopted, there is so much in the shape of reasoning and experiment in each page, that we feel it to be a somewhat difficult task to give in a short space any clear or satisfactory idea of the Baron von Reichenbach's views. Our readers must not suppose from the title that this essay is written in support of mesmeric quackery. It is true, that many of the results, obtained by the author, appear to establish the existence of a new imponderable capable of affecting inorganic and organic, or dead and living matter; possessing, according to his experiments, powers of conduction, isolation, refraction, polarisation, and diffusion, and endowed with dualism according to laws which are as yet imperfectly ascertained. This force or power is, however, wholly distinct from magnetism in its properties: it does not attract iron, nor is it influenced by terrestrial magnetism, and Von Reichenbach has evidently been embarrassed to apply to it a proper designation. Thus he gives to his alleged new imponderable the name of "*od*," making it the terminal of well-known powers or properties through which it is diffused—as biod and thermod. We think he would have acted wisely to have adopted the plan of the older anatomists, who, whenever they were puzzled about a bone or a foramen, invariably called it "innominatum:" so shall we, for the present at least, designate this new force as the *vis innominata*.

This force is found to reside in powerful magnets; for it is stated that when these are drawn along the living body downwards without contact, they are found to produce certain sensations in a certain proportion of human beings, whom the author calls the *sensitive*. The class of sensitive

persons is numerous; it includes both sexes, but especially females; it includes the healthy, but more generally persons who are described as nervous. Those who are affected with spasmodic or nervous diseases, lunatics, and somnambulists, were observed to be particularly sensitive.

Such individuals are not merely affected in their bodies by the contact or proximity of strong magnets, but in some instances the senses appear to acquire a powerful exaltation. Thus experiments are detailed which go to establish that a female, subject to catalepsy, clearly saw in a dark room a luminous appearance, like a moving flame, at each pole of a powerful horse-shoe magnet whenever the armature was removed. Others who were present saw nothing. The experiment was repeated on several persons, who were found to be sensitive, with like results. It appears not improbable that this magnetic flame is identical with the light of the Aurora Borealis.

It is not a little remarkable that this magnetic light or flame, thus invisible to most persons, was distinctly proved to affect the whole surface of a daguerreotype plate (10). It possessed no heat; and it was found by a series of very ingenious experiments to be capable of concentration by a glass lens without any increase of temperature being thereby produced. There is a sort of remarkable coincidence here with the late researches of Faraday on the influence of the magnetic current on light.

Von Reichenbach did not find that the hand of a cataleptic "sensitive" either attracted or repelled the needle, nor that a needle became magnetised by contact. The apparent magnetisation of some needles, under these circumstances, was, he considered, due to their having been accidentally magnetic before the performance of the experiments. Magnets have, however, been undoubtedly made by the animal body, as in the experiment performed by Faraday on the electric eel. Here a needle, having no magnetic polarity, became at once a magnet by exposure to a shock from the body of the animal!

We next meet with the startling statement that this vis innominata resides not merely in magnets, but in natural or artificial *crystalline solids* in different degrees. The force is in the axis of the crystal, and being at opposite ends, is polarised. From these, as from the magnetic poles, light is sent forth quite perceptible to the sensitive. Nevertheless there is not the least sign of electricity or magnetism about the crystal. Some curious illustrations are adduced to show that terrestrial magnetism also affects the sensitive. On this subject, however, it appears to us that further observations are required; although we must admit that Von Reichenbach's results are in some degree supported by the singular discoveries of Faraday relative to the force which he has named "*diamagnetism*."* The author likewise concludes from his experiments that the force found in magnets and crystals exists also in the *human hand;* and that this, when passed over sensitive patients, will act upon them like a powerful magnet or a crystal! Herein the new doctrines tend, in some degree, to support the views of the mesmerists. Dr. Gregory states that he is able to confirm some of Von Reichenbach's statements relative to the effects of this common power (distinct from magnetism) which resides in the hand, in crystals, and in magnets.

It certainly is a new and extraordinary fact, admitting the correctness of these experiments, that a magnet should cede an unknown something quite distinct from magnetism to all bodies of whatever kind, and that it should possess this property in common with crystals and with the human hand. At p. 49 (§ 110) we find a confirmation of the experiments of Barlocci on the power of the rays of the sun to increase the force of magnetism in magnets.† It would also result from the author's observations, that not only does this *vis innominata* reside in the solar rays, but that, like them, it is susceptible of refraction, appearing in greater intensity at the outer edge of the red or in the calorific rays. It is found abundantly in the moon's rays; and, as if to show that that which is regarded as an error by one generation may become an established truth to another, the author has arrived at the conclusion, that the light of the moon

* See page 248 of the present volume.
† See vol. xxxv. p. 1254.

"possesses a peculiar attraction, in virtue of which it acts on those affected with lunacy; nay, may possibly cause that malady" (61). Hence, according to Von Reichenbach, it would appear that the terms lunacy and mania* are most appropriately applied to cases of insanity.† The author does not refer to Esquirol's experiments on the insane, which tend to establish that the moon has no special influence upon them: and, indeed, we may observe, that throughout the treatise he is more desirous of stating his own observations than of comparing them with those of others.‡ Heat is alleged to be a source of this power, and so is friction, probably in consequence of the heat evolved. The author has likewise found it to be an effect of artificial light, and indeed of chemical action generally.

One of the most marvellous parts of this essay is that which refers to the alleged power of "the sensitive" to *see lights over graves.* Persons who confessed in bygone years that they possessed this power, were charged with witchcraft, and many thousands perished miserably by torture or by the hands of the executioner. Von Reichenbach felt desirous of determining by direct experiment, whether there was any ground for believing that luminous flames were evolved from those spots in churchyards where the mouldering remains of the dead lie interred. On repeated trials, the result uniformly justified his anticipation. A female patient described the appearance as a shining vapour most vivid over the newest graves, and rising, in some instances, to the height of four feet! "If she thrust her hand into it, it was like putting it into a dense fiery cloud!" (p. 70.) The old superstition of "corpse lights," of the ghosts of the departed wandering in darkness in lonely churchyards, thus, in the opinion of Von Reichenbach, received at once an adequate explanation. We subjoin a remarkable case given by the author, not from his own observation, but upon what he regards as truthful authority:—

"A singular occurrence, which took place at Colmar, in the garden of the poet Pfeffel, has been made generally known by various writings. The following are the essential facts. The poet being blind, had employed a young clergyman of the evangelical church as amanuensis. Pfeffel, when he walked out, was supported and led by this young man, whose name was Billing. As they walked in the garden, Pfeffel observed, that as often as they passed over a particular spot, the arm of Billing trembled, and he betrayed uneasiness. On being asked, the young man reluctantly confessed that, as often as he passed over that spot, certain feelings attacked him which he could not control, and which he knew well, as he always experienced the same in passing over any place where human corpses lay buried. He added, that at night, when he came near such places, he saw supernatural appearances. Pfeffel, with the view of curing the youth of what he looked on as a fancy, went that night with him to the garden. As they approached the spot in the dark, Billing perceived a feeble light, and when still nearer, he saw a luminous ghost-like form floating over the spot. This he described as a female form, with one arm laid across the body, the other hanging down, floating in the upright posture, but tranquil, the feet only a hand-breadth or two above the soil. Pfeffel went alone, as the young man declined to follow him, up to the place where the figure was said to be, and struck about in all directions with his stick, besides running through the place of the figure; but the ghost was not more affected than a flame would have been; the luminous form, according to Billing, always returned to its original position after these experiments. Many things were tried during several months, and numerous companies of people were brought to the spot, but the matter remained the same, and the ghost-seer adhered to his serious assertion, and to the opinion founded on it, that some individual lay buried there. At last Pfeffel had the place dug up. At a considerable depth was found a firm layer of white lime, of the length and breadth of a grave, of considerable thickness; and when this had been broken into, there were found the bones of a human being. It was evident some one had been buried in the place, and covered with a thick layer of lime (quick-lime), as is generally done in times of pestilence, of earthquakes, and other similar events. The bones were

* Μήνη, the moon.

† This doctrine would give strength to a very popular notion, that sleeping exposed to the open moonlight is liable to give rise to an attack of insanity.

‡ We would here remark, that an ingenious Italian philosopher, Niccola Pilla, has in some measure anticipated Reichenbach's views on the polarity of parts of the body. We have now before us Pilla's work, "Il Galvanismo nel suo Rapporto colla Riproduzione Animale, Napoli, 1817." At page 18, the author says:—"Chi sa se ciascuno de'visceri animali non avesse la propria *polarità*, d'onde le rispettive funzioni, alle quali ciascuno di loro è addetto."

removed, the pit filled up, the lime mixed and scattered abroad, and the surface again made smooth. When Billing was brought back to the place the phenomena did not return, and the nocturnal spirit had for ever disappeared." (p. 67.)

Dr. Gregory attempts to account for this appearance by reference to chemical action; but, admitting the truth of the statements, there appear to us to be some serious objections to this view. A corpse is undoubtedly a field for abundant chemical changes, and rain water and quicklime (the latter becoming slowly carbonated) may aid or protract these chemical changes; but in the case quoted, we read only of the discovery of *bones* at a *considerable depth*; in short, a human skeleton long since buried. According to Von Reichenbach's own experiments, the flame was most visible over the *newest* graves. No chemical theory can surely explain how, when bones only are found at a considerable depth in the earth, such a luminous appearance confined to one particular spot can be accounted for, even although chemistry may plausibly aid the explanation of the phenomena with regard to a subject recently interred.

Again, on the chemical or any other hypothesis, the luminous appearance should also be seen over spots where *animals*, and not merely "human corpses," lie buried: we do not, however, find that this very easy test for the alleged powers of the sensitive has been tried. Experiments might be made in this way without any intimation being given to the persons who are believed to possess this extraordinary vision; and there should be nothing in the soil or locality to indicate the object of the experimentalist. So far as Von Reichenbach's researches on this subject at present extend, we must apply to them the old axiom, "*experimentum fallax judicium difficile.*"

While, therefore, we do not deny the possibility of a luminous appearance over graves being visible to some persons, the explanation above given appears to us to be wholly insufficient to account for it: *causa latet.* We are acquainted with a gentleman, well versed in science, and a man of undoubted veracity, who assures us that he has repeatedly seen this luminous appearance over graves in churchyards to the height of a foot or more from the surface. This fact, strange as it may appear, is, however, not more wonderful than the well-known luminous character of the ocean, the light of the glow-worm, the light seen on some occasions in the human countenance before death, and in certain kinds of dead animal and vegetable matter. The marvel is, not that the fact is so, but that all persons do not equally see it. On the other hand, there are, it must be admitted, exaltations of sense scarcely conceivable to the generality of persons. These exist naturally in some animals; and it would appear from the researches of Von Reichenbach they may be brought out under certain morbid conditions in the human subject. Has a European the olfactory sense of the Indian to track the steps of a fugitive? Has a man the sense of the red deer, which will detect the taint of a human being at the distance of several miles; or of a fox, which will detect the trace of a human footstep for some days after it has been communicated? If not, we must cease to make our own powers of sense the standard whereby we judge of the degree to which any one of the senses may become exalted.

As the translator justly observes:—

"In matters of observation, especially when new, the only question is this: 'Is it true?' and not 'Is it possible?' or 'Is it not absurd?' We cannot say what is possible, or what is absurd. That we cannot explain it, is only what might be expected, if we consider that multiplied observations are necessary before we can attempt to trace those general laws which we often call explanations; although they are only statements of facts in a new form. Newton's law of gravitation does not explain the facts; it only aids our comprehension of them." (p. 15.)

We shall here remark, for the benefit of *à priori* reasoners, that only a few years ago the statement that the impression of the human features, with every individual eyelash, might be permanently fixed on a plate of polished silver in a few seconds by the agency of light, would have been denounced not merely as a rank absurdity, but as an utter impossibility! It is far from our intention to imply that we should not receive all novel statements, which appear adverse to common experience, with a fair degree of scepticism, at least until they have

been extensively proved and tried; but we think the most sceptical philosopher will find in this essay of the Baron von Reichenbach much to call forth deep reflection. He may, like ourselves, consider the author generally credulous, but he will not fail to give him credit for honesty, fair dealing, and ingenuity in carrying out his researches. From a note attached to the essay, we perceive that they have already received the approval of the celebrated Berzelius.

We cannot close our notice without expressing our approbation of the manner in which Dr. Gregory has performed his part of the task. The translation is exceedingly well executed.

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*Ovariotomy. Removal of an Encysted Tumour of the Left Uterine Appendages.* By GEORGE SOUTHAM, Surgeon to the Salford Royal Hospital, &c. (Reprinted from the Provincial Medical and Surgical Journal). pp. 11. Salford: Jackson. 1845.

THE subject of Mr. Southam's case (the second in which he has performed the operation of removing a dropsical ovarium—the first having been reported in the GAZETTE, November, 1843), is a married woman, aged 38. She noticed an increase in the size of her abdomen eight years ago, but as it was not attended with any derangement in her health, or any irregularity in her menstrual function, it was attributed to corpulency. During the last twelve months the tumor acquired such a size as to interfere with respiration, especially when in the recumbent posture, and she occasionally suffered from pains in the left inguinal region. Tapping was frequently recommended to relieve these symptoms, but she refused to accede to it.

The symptoms clearly indicating encysted dropsy of the left uterine appendages, advanced to such a stage as to render surgical interference necessary, and her constitution not being much affected, Mr. Southam considered the case was peculiarly favourable for the operation; at the same time, in giving his opinion, he candidly stated that tapping, which was now absolutely required, though merely palliative, was attended with less risk, and would probably prolong her life in tolerable comfort for some years. Extirpation was, however, the only effectual means of radically removing the disease, but much more dangerous, two out of five having died. She stated her willingness to undergo the operation of removal, notwithstanding its concomitant dangers. The preliminary arrangements having been entered into, such as abstinence from animal food and stimulating liquors for a few days, the free evacuation of the bowels with castor oil, the temperature of the room raised to 75° Fahr., and the bladder previously emptied, the operation was commenced. An exploratory incision, mid-way between the umbilicus and pubes, was first made, and the peritoneal cavity opened sufficiently to admit the finger. A characteristic membrane of a bluish-white and shining surface appearing at the opening, at once satisfied the operator of the existence of a cyst; and the finger introduced between it and the peritoneum, discovering no adhesions in the immediate neighbourhood, he punctured it with a full-sized trocar. After from sixteen to eighteen pints of clear, lemon-coloured, slightly mucilaginous fluid had been evacuated, pressure on the parietes being well sustained during its escape, the canula was withdrawn, and using the index finger as a director, the opening was enlarged above and below, with a probe-pointed bistoury, to the extent of between six and seven inches. Having ascertained by the hand introduced into the abdominal cavity, that there were no impediments to the extraction of the tumor, it was carefully drawn out, gentle pressure being continued on the abdomen. Finding it was attached to the uterine extremity of the left broad ligament by a short and highly vascular pedicle, it was tied firmly with a single ligature of the strongest dentist's silk. The pedicle was now divided, and the tumor being removed, the margins of the wound were immediately approximated to prevent the ingress of air. After a brief interval the wound was again opened, to remove what blood had escaped internally, and to ascertain that the vessels of the broad ligament were firmly secured. The uterus and opposite ovary were also examined and found healthy. One end of the ligature being cut off, the other was left dependent at the lowest point of the wound, the edges of which were

brought together by four interrupted sutures and straps of transparent tisive plaster. Upon these a broad pad was applied, and the whole being adjusted by a bandage, the patient was lifted into bed, within twenty-five minutes from the commencement of the operation. During the whole time she sustained herself remarkably well, apparently not suffering much pain, except whilst the exploratory incision was made, during which some little delay occurred, from the parietes being freely supplied with adipose tissue. No difficulty was experienced from the intestines protruding, as they were remarkably flaccid. There was very little hæmorrhage, and no vomiting, but a feeling of faintness was induced by the evacuation of the fluid.

On the day following the operation, she had some pain along the course of the wound, and in the left side: pressure on the abdomen increased it. She complained of a feeling of distension in the bowels, with frequent desire to pass flatus, which she was unable to do. Skin hot and dry; no vomiting; tongue assuming a morbid redness; had not slept since the last visit. As the pulse was fuller and more frequent, Mr. Southam took fourteen ounces of blood from the arm, which had the effect of lowering it twelve pulsations, and causing faintness. Two-thirds of a grain of morphia were administered at night. The patient suffered for some days after the operation from distention of the bowels by flatus, which was relieved by castor oil, enemata, &c. On the third day she complained of a short cough,* attended with expectoration, but this soon yielded to mild diaphoretics and counter-irritation. On the fifth day after the operation, the wound was nearly healed; and in thirteen days afterwards she was able to be removed a distance of three miles, appearing to have recovered from the effects of the operation. The ligature came away on the forty-ninth day, after which a fistulous opening that had formed around it closed. The patient has since gained flesh, and is now in the enjoyment of perfect health. The tumor consisted of one entire cyst, which, when distended with fluid, was of an ovoid shape, and weighed thirty-one pounds. The disease had evidently originated in a fold of the broad ligament, the ovary being merely adherent to it. The author concludes his pamphlet with some judicious remarks upon the removal of ovarian tumors.

We apprehend that the favourable reports of those surgeons whose cases of ovariotomy have ended well, and the fatal issues of the means employed by those who have failed, have been almost equally injurious to the reputation of this operation. The former have led surgeons to believe the measure to be safer than it in reality is, and to employ it without proper caution in cases where rational hopes of success could scarcely be entertained; while the latter have cast upon the operation a discredit which appears to have been, in reality, principally due to the rashness and want of tact in diagnosis of the operators. In reviewing the fatal cases which are upon record, it is observable that, although in several of the instances the operations were undertaken and performed with great judgment and skill by men of high surgical merit, in a large proportion of their numbers the deaths were attributable either to bad diagnosis or to an erroneous estimate of the constitutions of the patients. In the whole of the latter cases, therefore, the blame is due to the operators, and not to the principle of the operation. It is a strong argument in favour of the operation, when undertaken with proper caution, that, in the hands of certain surgeons, it is stated to have been invariably successful. At present the question which calls upon the surgeon to decide between the adoption of the operation of paracentesis and that of excision, in these cases, stands thus:—It is not proved that any means, except that of incising the abdomen and removing the cyst, can be regarded as a certain cure for ovarian dropsy. With the exception of a few isolated cases in which spontaneous cure has occurred, ovarian tumors pursue a steady course of increase, requiring frequent operations for the evacuation of the fluid, incapacitating the patients for the

* We have seen fatal pneumonia follow the evacuation of the contents of an ovarian cyst which had become so much enlarged as to interfere with respiration: it is well known that in many instances of extensive collections of fluid in the abdomen, the lower lobes of the lungs are liable to become compressed and airless; inflammation of the pulmonary tissues is not a frequent result of paracentesis abdominis, but it is as well that practitioners should be upon their guard against its occurrence.—Rev.

duties of active life, seriously impairing the health, and causing death after a term of years. On the other hand, the operation of ovariotomy has hitherto been followed by rapidly fatal results in one-third of the cases in which it has been performed; but in the successful instances the patient's health and vigour have been completely restored.

The broad principle, that serious operations should be undertaken only by surgeons who possess in a high degree tact in diagnosis, judgment in the selection of proper subjects for operation, and medical skill in conducting the preliminary and after treatment, of course applies to the measure under consideration; but we are far from joining with those who, arguing only upon cases of failure, inveigh bitterly against this operation as a rash and unjustifiable step. Unquestionably the cases in which it is admissible are far more limited in number than its advocates at first conceived; but we have little doubt that, when these cases are rightly defined, the operation will be generally recognized as a measure of great and unquestionable utility.

The statistics of the operation, as given in Dr. Churchill's report, were as follows:—Out of 68 cases, 41 recovered, and 25 died; and 2 are described as "not cured." In 49 cases, where the tumor was removed, 16 died. In 10 of the cases the operation was not completed; and 5 died; and of 8 cases in which no ovarian tumor existed, 4 died. Since this table was compiled, several cases in which the operation proved successful have been recorded; whether any additional unsuccessful cases which have been allowed to pass unrecorded have also occurred it is impossible to decide. The existence of this doubt has always detracted from the value of statistical facts relating to this operation.

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*Archiv für Physiologische und Pathologische Chemie und Mikroskopie in ihrer Anwendung auf die praktische Medizin von* Dr. J. F. Heller. Jahrgang, 1845. 5 und 6 Haft.

*Archives of Physiological and Pathological Chemistry, including Microscopical researches,* in their relations to Practical Medicine.* By Dr. J. F. Heller. For the year 1845. Parts 5 and 6.

The indefatigable editor of these Archives, spares no pains to give them a highly scientific character in relation to microscopical chemistry and pathology. The present double number is full of subjects of great interest and of practical utility, and it appears to us to be a most satisfactory record of the progress which this branch of science has recently made throughout Europe. The editor has himself contributed some interesting papers, *e. g.*, on the Presence of Copper in Bile; on the Presence of Lead in the Bile of persons affected with the Morbus Saturninus; on the External and Internal use of the Nitrate of Silver; on the Chemical Pathology of the Urine in Anasarca following Variola, and in Coxalgia; and on the Presence of Spermatozoa in the fluid of Hydrocele. Dr. Seitz and Dr. Gorup Besanez have also contributed papers on Microscopical Pathology; and on the Changes of the Composition of the Urine in Disease. It is a matter of gratification to us to find that Dr. Heller has made good use of many interesting papers which have been recently communicated to this journal. Thus we have, in this number, translations of the essays of Dr. Sutherland and Dr. Rigby, on the Analysis of the Urine of Insane Patients; of Dr. Golding Bird, on the Green Alvine Evacuations in Young Children; of Dr. H. B. Jones, on the Deposits in Albuminous Urine; and of Mr. C. H. Jones, on the Microscopical Examination of the Diseased Liver in the Rabbit; published in our last volume. We are sure that it will be as satisfactory to our contributors as it is to ourselves, to know that their essays have thus acquired a European reputation.

As we thus indirectly contribute to the contents of the Archives, it is only fair that we should make use of the original matter contained therein. We therefore propose to make a selection of some of the more important papers, and bring them shortly before our readers.

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* The Germans have anticipated us in coining a substantive, Mikroskopie, for that which is daily acquiring the character of a new science; either the term Microscopics or Microscopy would be more convenient than the periphrasis which we have above employed.

# Proceedings of Societies.

## SOUTH LONDON MEDICAL SOCIETY.

May 14, 1846.

EDWARD COCK, ESQ. IN THE CHAIR.

MR. STERRY related the following case of hæmorrhage from the gums:—

A fine boy, aged 12 months, with the exception of disordered bowels, had been perfectly healthy until nine months old, when, dentition commencing, he had convulsions, frequently as many as twenty in the day. The gums were scarified, and leeches applied to the head; no material bleeding ensued, and three incisors of the lower jaw made their appearance. About the middle of January last the child had dropsy, from which it recovered. January 31st, the gums being directed to be lanced by a physician, the child was, contrary to his direction, taken to a chemist and druggist, who, instead of lancing the upper incisor, which required relief, made a deep incision over the first molar tooth on the right side of the lower jaw. Hæmorrhage ensued, continuing without intermission until the 3d, when the actual cautery was applied, which arrested the bleeding for about an hour, but burnt the upper lip, from which blood flowed for two days, when the child was brought to Mr. Sterry's surgery. The child being restless and suffering from teething, notwithstanding the hæmorrhage, the upper gum was lanced, and bleeding prevented by the application of dilute nitric acid, and afterwards the Tr. Ferri Sesquichloridi. The same remedies being applied to the lip and lower jaw, from which the hæmorrhage proceeded, arrested it for a short time. The next day the bleeding still continued, except from the upper gum, which Mr. Sterry had himself lanced, the application of the Tr. Ferri Sesquichloridi being neglected. The day following, blood which had been swallowed was both rejected from the stomach, and passed per anum, the child being much blanched and debilitated. The turpentine enema was used, and one grain of the gallic acid given every two hours; the gallic acid was also applied externally, and arrested the hæmorrhage for a short time; it however soon returned, and the child becoming convulsed, died the next day. No post-mortem examination was allowed. The mother stated, that on one occasion, during a fit, blood oozed from the inside of the thigh in sufficient quantity to cause a stain the size of a shilling. The author then inquired whether the blood had been deteriorated by the dropsy, and so prevented coagulating; and if so, what gave rise to dropsy in a child whose only illness had been disturbance of the bowels and convulsions.

In reply to questions from Drs. Chevers and Barlow, Mr. Sterry stated that the urine had not been examined, nor had the child suffered from scarlatina or jaundice.

Dr. BARLOW alluded to cases where jaundice had been present; and believed that disease of the depurating organs often tends to produce an hæmorrhagic diathesis.

Mr. HICKS inquired as to the state of the child's health previous to the fits; remarking, that the case was similar to those where hæmorrhage occurs after the extraction of a tooth,—that they were generally preceded by bad health and visceral derangement: in approving of the use of nitric acid, he related a case where, after an incised wound of the tongue in a child, hæmorrhage occurred, and, all other remedies proving useless, strong nitric acid checked it instantly. His opinion was, that the state of the blood had given rise to the dropsy, and not the dropsy to the deteriorated condition of the blood.

Mr. STERRY was not aware of any hæmorrhagic tendency in this child. He mentioned the case of a family in Bermondsey, of which all the members suffered from hæmorrhage after extraction of a tooth.

Dr. BARLOW, in answer to Mr. Sterry, stated that his remarks had reference to hæmorrhage during jaundice in adults, not infants: he considered it often depended on the presence of bile in the blood.

Dr. CHEVERS had found by investigation of the subject, that there was frequently some disease of the abdominal viscera, together with a vitiated condition of the fluids, in cases where uncontrollable hæmorrhage occurred either spontaneously or from trifling injuries; and that secondary hæmorrhage after operations was in many instances connected with some form of Bright's disease of the kidney. He alluded to the liability of the arteries and veins to become involved in ulceration after scarlatina, where a faulty condition of the kidneys is evidently present; and referred to the case of an adult patient in Guy's Hospital, the subject of renal disease, who died from the effects of the extraction of a tooth; the cheek sloughed, and fatal hæmorrhage occurred from the facial artery.

Dr. BARLOW, who had seen the child, said that it was not the subject of kidney disease, but suffered more or less from bronchitis, and embarrassed pulmonary circulation; that anasarca resulted, in such cases, as in hooping-cough, from fulness of the veins, and there was a great liability to hæmorrhage, as after death bloody serum was seen oozing out in all directions. In such cases the application of leeches was to be dreaded.

Dr. LEVER mentioned the case of a

female suffering from uterine congestion, for whom he had ordered cupping to the sacrum; and on her visit the following week she was blanched and exhausted; the wounds still continued bleeding. In her early life she had not suffered from this hæmorrhagic tendency, but after her confinement had suffered from hæmorrhage. The same patient cut her hand, and there was great difficulty in arresting the bleeding. He had discovered her to be the subject of enlarged spleen: in this case he had used the matico with success.

Mr. HICKS agreed with Dr. Lever as to the frequency of disease of the spleen in these cases, remarking that malaria, which exists to a very great extent in Bermondsey, much tended to produce an hæmorrhagic diathesis.

Dr. HUGHES was also of the same opinion. In the case narrated he thought the operation had been improperly performed, and that the child died from want of care on the part of the parents.

Mr. ROBINSON thought there were three distinct causes to account for hæmorrhage in such cases. 1st. Constitutional debility; (here it was not necessary there should be any *disease* of spleen or other organ.) 2d, want of due amount and quality of fibrine; and 3dly, defect of nervous power in the system, as mostly occurs in a nervous weak temperament. Here he had found great benefit from opium. He was opposed to the use of stimulants; for although they arrested the hæmorrhage for a short time, they produced stimulation of the vessels. He believed that pressure firmly and permanently applied by means of the finger and a piece of sponge would succeed in checking the bleeding in any case after the extraction of a tooth.

Dr. CHEVERS alluded to a case of laceration of the tongue, recently published in one of the journals, where, after every ordinary plan was tried unsuccessfully, matico was applied, and at once arrested the hæmorrhage.

Mr COCK agreed with Mr. Robinson as to the value of sponge as a styptic. In the case of bleeding after extraction of a tooth, it must be cut conically, so as to be exactly applied to the bleeding part.

The conversation then turned on the subject of malaria in the neighbourhood of Bermondsey; Mr. Hicks attributing the peculiarly unhealthy appearance of many of its inhabitants to that cause; whilst Mr. Sterry, on the contrary, believed it depended on poor living, and residence in confined situations; as, in extensive practice amongst the poor for many years, he had never met with ague or an aguish tendency except in one district, where new houses had been built over marshy and badly-drained land.

The Society then adjourned.

## Medical Trials and Inquests.

CENTRAL CRIMINAL COURT.

Wednesday, May 13.

[*Before* Chief-Justice DENMAN *and* Mr. Baron ALDERSON.]

*Trial for poisoning by arsenic—detection of the poison in the body—the alleged presence of normal arsenic in the bones—and in the earth of cemeteries—failure of proof of administration.*

WILLIAM RICHARDSON and ANNE MARIA RICHARDSON were placed at the bar to plead to an indictment which alleged that the prisoners feloniously administered to a male child, eight days old, a certain quantity of deadly poison called arsenic, and that they did thereby kill and murder the said child.

Mr. Bodkin, Mr. Huddleston, and Mr. Clark appeared for the Crown; Mr. Clarkson and Mr. Ballantine defended the prisoners.

Mr. BODKIN addressed the jury, and said,—That having heard from the reading of the indictment the nature of the charge that was made against the prisoners, it became his duty to detail to them the circumstances upon which they would have to decide the awful question of the guilt or innocence of the prisoners at the bar. The case was one almost without parallel. The prisoners at the bar not only stood in the relative position of father and daughter charged with the murder of a helpless infant, but that infant, there was no doubt, was their own offspring, and the result of an incestuous intercourse between them. He stated this to them, because he was aware that it was impossible for them not to have become accquainted with the fact from other sources; and as he felt that such a circumstance must tend to create horror in every well-regulated mind, he had to entreat them not to allow the prejudice that would thus naturally be created to weigh unfairly against the prisoners, but that on the decision they should eventually come to, they would be guided solely by the evidence that would be adduced in support of the specific charge now made against them. The learned counsel then proceeded to narrate the facts in support of the charge, and the following witnesses were examined:—

Charles Pearce deposed that he is a labourer in the employ of a bricklayer at Greenwich, and on the 22d of January last he was engaged in digging for a cesspool in the garden of the male prisoner's house at Greenwich, and while so engaged, he found a coffin which contained the dead body of an infant.

Mr. Thomas Oak Mitchell deposed that he is a surgeon at Greenwich, and he first

saw the body of the deceased on the 23d of January. The next day he made a more minute examination, which induced him to remove the contents of the abdomen, with a view to their undergoing a minute chemical examination; and he afterwards, assisted by another medical gentleman, applied tests to the liquid he so removed, in order to endeavour to ascertain the existence of poison. The results of their examination were not very satisfactory to him, but he suspected the existence of arsenic in the stomach, and in consequence of this the remaining contents were given to Dr. Leeson to undergo further analysis. *Cross-examined.*—The interior of the body was in a state of almost entire decomposition, but he could ascertain the sex of the chid, and in his opinion it was born alive. He cut the body into four pieces and placed it in a jar. The contents of the stomach were placed in another jar, and he afterwards threw away some portion of them in his garden. The witness then detailed the experiments he used in endeavouring to ascertain the presence of different poisons. There was no trace of oxalic acid or mercury, but there were traces of the presence of arsenic. *Re-examined.*—Dr. Leeson had nothing to do with that portion of the contents of the stomach which he first experimented upon.

Mr. Heisch, the assistant-chemical lecturer at St. Thomas's Hospital, proved the receipt of the jar containing the contents of the stomach and portions of the body of an infant from the last witness, and that he was present and assisted Dr. Leeson in making certain experiments upon them, with a view to ascertain whether any poison existed. The witness then gave a minute technical detail of the experiments resorted to by himself and Dr. Leeson, and expressed an opinion that nothing but arsenic could have produced all the results to which he had alluded, and in his opinion the quantity discovered was four grains and one-tenth, but he could not undertake to say that this was sufficient to have destroyed the life of a child. *Cross-examined.*—Many poisons, both mineral and vegetable, have recently been discovered. It was considered by some of the medical faculty that the bones of human beings contained arsenic. Arsenic, he believed, was also found in combination with copper, and in the earth whence copper was taken (?). He could speak with certainty to there being arsenic to the extent of four grains and one-tenth in the body, but he could not state that this was all that the body contained. *Re-examined.*—The belief that human bones contained arsenic was only entertained by a portion of the faculty. He had seen experiments tried with a view to ascertain the fact, but they did not result in the production of arsenic.

Dr. Leeson was next examined. He confirmed the opinion given by the last witness, and also stated that he had himself made other experiments with the same object, and that the ultimate result was, that he had no doubt whatever that the body contained arsenic, and that the quantity was at least four grains and one-tenth, which he also said was quite sufficient to cause the death of a child. Dr. Leeson went on to say, that if arsenic were administered to an infant, it would probably first cause great pain in the stomach, then a redness and soreness in the throat, and there would also probably be blisters upon the tongue and throat, and the usual results of inflammation in the stomach, great thirst, &c. *Cross-examined.*—Very great care and attention were necessary in the experiments made with a view to ascertain the existence of poison, and some tests formerly relied upon were now rejected as fallacious. He should not himself rely upon any one individual test, but the result of the whole of his experiments satisfied him to a certainty of the existence of arsenic in this case.

By the Lord Chief Justice.—I have no doubt whatever of the fact.

Charles May proved that by direction of Dr. Leeson he obtained a small quantity of the earth from whence the body was taken.

Dr. Leeson was recalled, and he stated that he analysed the earth so produced, and that it did not contain any arsenic. He thought it right to do this, not because he entertained an opinion that earth might contain arsenic; but because he was aware that there was an impression that the earth of churchyards contained arsenic, he thought it would be more satisfactory to make an examination of the earth from whence the body was taken.

Evidence was then adduced to shew that the male prisoner had hired a lodging in Bermondsey, and that the female prisoner was there delivered of a child. A week after the birth of the child, the male prisoner called to see it: up to that time it had appeared quite well,—it was taken ill the same evening, and died in three days. A medical man who attended it considered the child to be labouring under thrush, and he certified that the cause of death was marasmus. This disease (thrush) was sometimes attended by pain in the stomach. The prisoner took away the body in a coffin, and privately buried it in his garden.

J. E. Kearsey, apprentice to Mr. Riches, a chemist, at Geenwich, proved that in August he had some conversation with the male prisoner about poisons, and he showed him a bottle that contained arsenic. The prisoner said, "Oh, that is arsenic, is it?" Witness said it was. The prisoner then asked how much it would take to kill any one, and he told him a very small quantity.

About a week after the 12th of September he saw the prisoner again in the shop of his employer, and he saw Mr. Riches give the prisoner a packet which contained arsenic, and he at the same time saw him write something upon the paper.

G. Corney, another person in Mr. Riches' service, proved that he was present when the last witness showed a bottle of arsenic to a third person, but he could not identify the prisoner as that person.

The male prisoner made the following statement :—"I have never done anything to contribute to the decease or cause the death of the child, and God knows it. My sole care was to preserve the child. I declare before God and this people that I never saw the article or bought any arsenic. The only thing that caused me to bury the child in my own ground was, that it should not be disturbed. I might have eluded this inquiry. All my children and my wife know that I have ever mourned the death of the child."

Mr. Clark said this was the case for the prosecution.

Mr. Clarkson submitted to the Court that there was no evidence against the female prisoner to call upon her for a defence.

The Lord Chief Justice, after consulting with Mr. Baron Alderson, said he did not think there was evidence to show that the female prisoner had any share in causing the death of her infant.

Mr. Clarkson then addressed the jury, for the defence, contending, as he proceeded, that there was not only no distinct proof that the child died of poison at all, but there was also an absence of anything like direct evidence that the prisoner had ever purchased poison, or that he had administered it to the deceased.

The Lord Chief Justice summed up the evidence, and in his preliminary observations remarked upon the fact of the learned counsel who had opened the case for the prosecution having retired almost immediately afterwards, leaving his junior to examine the whole of the witnesses, and to conduct the case to the end. He said that in such an important case as this he did not think this ought to have happened, for it could not be expected that the gentleman who was the junior counsel could be so well acquainted with all the facts as his leader, and this circumstance had thrown a great deal of additional anxiety and labour upon the Court in the examination of the witness. His Lordship then proceeded to read the whole of the evidence, commenting upon the material portions of it as he proceeded.

The Jury retired at a quarter to 7 o'clock, and returned into court at a quarter past 8 o'clock, finding a verdict of Not Guilty.*

* Times report.

Remarks.—From the medical evidence, notwithstanding some obscurity in the report of the symptoms, it is impossible to doubt that the child died from the effects of arsenic. The administration of the poison could only be attributed to accident or murderous design, and the latter is by far the more probable. The male prisoner took the lodgings on the 12th of September, and a few days afterwards (the 17th) his daughter was delivered of a child. The witness Kearsey deposed that he saw his master supply the prisoner with a packet which contained arsenic about a week after the 12th of September (19th): the prisoner was at the house on the 24th of September, and the child died on the 27th. This was all the evidence against the prisoner as to his possession of poison, and the jury, by their verdict, considered it to be insufficient.

The medical part of the case is chiefly interesting, from the fact that we have here raised up against the evidence, Orfila's exploded notion of the existence of normal arsenic in bones, a statement which was long since proved to be erroneous by his own experiments. We place just as little confidence in the allegation that arsenic is present as a constituent of the soil of churchyards. Orfila, who holds this opinion, admits that it always exists in an insoluble form : therefore it can never affect an analysis which is confined to the body.

The remarks of the Judge shew how the prosecution of these important cases is left to accident. There was no public prosecutor to conduct the case with that zeal and energy which are necessary to the proper administration of the criminal law : but it was left to a counsel who it appears had engagements elsewhere, and who acted upon the principle that a prosecution for murder should be made subordinate to his other duties !

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Another important case has been tried at these sessions, that of the woman Clark, indicted for the wilful murder of one of her children by throwing it into the water from Battersea Bridge. She was very properly acquitted on the ground of insanity, as there could be no doubt of the act having been perpetrated in a fit of homicidal monomania. The case in this respect is very similar to one reported in the last volume of this journal*. We reserve our comments on this case until we know the result of the trial in the case of the youth Graham, who has been lately committed for shooting a man in Drury Lane. This is postponed until the next sessions.

* Vol. xxxv. p. 166.

## Selections from Journals.

CASES OCCURRING IN THE VIENNA HIGH SCHOOL, IN 1842-43, AND 1843-44. BY DR. SCHUH.

*Trephining; two Cases unsuccessful.*—A woman, aged 28 years, fell down into a cellar, where she lay senseless. She was bled. On being brought, the same day, to the hospital, a small contused wound was seen over the left eye-brow, to the outer side. Upon laying bare the bone a depression was discovered, about a line deep and an inch long, with fracture. The fracture extended upwards and downwards, but its length could not be determined. She was completely unconscious; no increase of heat in the head; sometimes crying out, with great restlessness; throwing herself from one side to the other, and getting out of bed. The eye-lids much swollen, and in consequence closed; the irides (after forcible separation of the eye-lids) insensible to light; dried blood in the nares; respiration normal; pulse somewhat accelerated and weak; in the following night she vomited, four times, some green fluid, and two loose stools were passed; retention of urine.

2nd day.—Pulse, in relation to its frequency, normal; the temperature elevated; the lips dry; the other symptoms as before.

*Diagnosis.*—Concussion of the brain, with probably laceration also; perhaps internal fracture of the skull. No symptoms indicated any large extravasation of blood. After the trephining it appeared that the depressed piece of bone might be easily elevated, but that it as readily fell back again into its former position, indicating that the separation extended forwards and backwards towards the base of the skull.

Another internal fracture was found. The dura mater was separated from the bones. The edges of the wound were brought together, with the exception of a very small portion. The patient continued as restless after the operation as she had been before. The breathing was often interrupted by a deep sigh. At times eructations; the face pale; the temperature of the head, which was covered with cold envelopes, diminished; the pulse more frequent and feeble, in the night fuller. Three stools, which, as well as the urine, were expelled involuntarily.

3d day.—More tranquil towards morning; she appears to slumber; lies upon the injured side, and performs automatic movements on that side; more warmth in the head, and turgid countenance. In the afternoon head and face colder; breathing normal; pulse accelerated, weak and small. Throughout the night she lay quiet and drowsy.

4th day.—Some traces of consciousness, as she indicated with her hand that she wished to drink. In the evening the warmth in the head and face became elevated. At night she was quiet.

5th day.—Temperature of head normal, that of face fallen, pale; that of the rest of the skin elevated.

6th day.—Considerable heat and acceleration of pulse; breath hurried and laborious; entire loss of consciousness. Death the next day.

*Post-mortem examination.*—The opening made by the trephine was contiguous to the coronal suture; the corresponding portion of the dura mater, discoloured, softened, and covered with greenish pus. The sagittal suture separated. From the inferior border of the opening made by the trephine, a wide fissure more than two inches long ran downwards to the superior margin of the orbital cavity; another took a direction above from the coronal suture backwards towards the parietal eminence, and measured two inches in length. The dura mater corresponding to the frontal and neighbouring parietal region, covered with a thin extravasation of blood. The internal surface of the dura mater, especially the right side, lined with a puriform exudation more than a line in thickness. The internal membranes vascular, as well as the substance of the brain. In the anterior and middle cranial fossa some extravasation of blood; the cortical, together with the medullary tissue of the left anterior cerebral lobe, to the size of a walnut, softened into a brownish red pulpy mass; and the adjoining brain soft and yellowish white. At the base of the skull in the orbitar plates of the frontal bone there was a transverse fissure, with destruction of the cribriform plate of the ethmoid, and of the small wing of the sphenoid bone. Besides this, a second, passing from the middle cranial fossa into the superior orbitar fissure. Both lungs were partly œdematous. — *Œsterrich. Med. Jahrbücher*, Feb. 1846, p. 187.

### *Concussion of brain, with fractured cranium—trephining—death.*

J. M., æt. 16, a bricklayer, fell from the roof of a house, and remained senseless an hour.

*Symptoms.*—In the frontal region on the right side close to the parietal bone there was a small contused wound close upon the bone, with a fracture without depression; a second without injury to the periosteum one inch farther backwards, and a third upon the most elevated portion of the right parietal bone; great tumefaction of the right eyelid; both lids closed; the patient

ay upon the left side or upon the back; sense of hearing diminished; inclination to sleep; and so much sensibility, that upon speaking loud the patient only murmured or returned unconnected answers. In the nostrils clots of blood; temperature elevated; pulse accelerated and full; pain in the contused lumbar region. In the night at times delirium, at other times sopor. Blood abstracted from the jugular vein.

April 16th. — In the night turbulent dreams; the patient wished several times to get out of bed; complains of pain in the head. More composed during the day; the swelling on the head enlarged; the wounds suppurating. Irritability of hearing, murmuring delirium, and sopor; temperature elevated; skin and tongue dry; thirst great; pulse accelerated, full, strong; urine dark.

*Diagnosis.*—Meningitis. The extensive injury would lead to the suspicion of extravasation of blood, but it must necessarily be thin and extended, since no symptoms of compression existed.

17th.—Night as the last; giddiness in the head; slight deep-seated pains; temperature elevated; sensible of sounds; pulse accelerated, full; tongue moist; urine less red.

18th.—No delirium in the night; tolerable quiet sleep; head hot, less painful; warmth somewhat elevated; pulse slightly accelerated and full; thirst less; urine less red; sensible when addressed.

The same the next day, with this exception, that on the right side of the face over the parotid region a very hot painful tumor was developed. Slight erysipelas over the head only.

22d.—Great restlessness in the night; the patient would leave the bed and muttered, half asleep; moderate fever; the urine more red; erysipelas paler, and less painful: three fluid motions.

23d. — Night quiet without delirium; slept for a little time; fever less; three fluid motions; the erysipelas in the face disappeared; suppuration abundant in the wounds of the head; pus good; the granulations firm; a counter opening was made to allow of a more free exit of the pus. During the day the patient was quiet and conscious. In the evening he was seized with delirium, would leave the bed, and fell from this into a deep stupor, so that he with difficulty answered questions. Head hot, eyes dull, look staring; turgescence of the countenance increased; tongue dry; skin very hot and dry; pulse very frequent; full, but soft.—Leeches.

April 24th. — Night partly delirious, partly stupor. In the morning consciousness again returned, so that he knew those about, and gave slow, but correct answers. He complained of the least pressure on the head, and great thirst. Temperature of blood elevated; turgescence of face moderate; pulse less accelerated; motions involuntarily passed; urine red. Suppuration from the wounds profuse. That part of the bone deprived of periosteum grey in colour.

25th.—Night sleepless, muttering delirium, automatic movements near the head, tearing off the dressings, cold shiverings lasting a quarter of an hour. During the day he was scarcely conscious an instant; automatic movements near the naked bones; frontal pains; countenance fallen, temperature elevated, pulse accelerated, small; involuntary discharges; paralysis of left side of body.

*Diagnosis.*—Suppuration on the left side. Trephining was performed on the anterior border of the right parietal bone. The dura mater was here covered with a coagulum of blood. A sound, passed two or three lines below the bones, gave exit to some drops of pus. An opening was made into the dura mater, whereupon about a coffee-cupful of pus came out. Bleeding from a wounded vessel was easily arrested by pressure. The soporific condition was still more marked during the operation. After the operation delirium returned, automatic movements in the head, and grinding of the teeth. After three hours' violent chilliness, he died during the night; the breathing becoming previously hurried, and the features distorted.

*Autopsy.*—At the anterior border of the opening made by the trephine the vitreous table was separated from three to four inches. From this opening there proceeded a fissure through the frontal bone to the crista galli; a second outwards, towards the squamous portion of the temporal bone; and lastly, a third through the right parietal bone, to the length of four inches. The dura mater of the right frontal and parietal regions was covered with a purulent exudation. The longitudinal fissure contained pus in its two anterior thirds, posteriorly fibrous coagula. Beneath the dura mater, as well as beneath the arachnoid and pia mater, at the commencement of both anterior lobes of the brain, was a layer of thick, yellow, puriform exudation. On the right side, immediately upon the convolutions, a firm coagulum of extravasated blood, interspersed with points of pus, extended, from the opening made by the trephine, directly backwards. This pressed upon the hemisphere, and was from 3-4 inches long, $1\frac{1}{2}$ broad, and 3-4 lines thick. The cerebral substance pale and bloodless. The inferior lobes of the lungs emptied of air, in places of a dark-red colour, and infiltrated with a purulent fluid.—*Med. Jahrbücher*, Feb. 1846.

## SURGERY.

### CASE OF DISLOCATION OF THE SPINE. REPORTED BY MR. W. H. COLBORNE.

J. G., labourer, was admitted into University College Hospital, under Mr. Liston, October 27th, for an injury to the spine. The patient is about 22 or 23 years of age, and stoutly made. The accident occurred on the morning of the 24th, when, as he was leaving his bed-room, being on the stair-head, he was seized with vertigo, and fell to the bottom. He was taken up insensible, and continued so for some time; on awaking from his stupor, he found that the power of motion and sensation was lost in both of the lower extremities. On admission, there was complete loss of sensation in all parts below the clavicles; the power of motion in the lower limbs was altogether gone; sensation was much impaired in the upper extremities, and though every movement could be performed by them, yet they were so much weakened as to be utterly powerless; no particular pain was complained of, but a general sense of uneasiness, and he says he feels stupified. Respiration was purely diaphragmatic, not the slightest motion of the ribs being perceptible, and articulation slow, and during expiration, difficult. The bladder was distended, but he was unconscious of it, and the bowels had not been evacuated since the accident. On the morning of the 30th, febrile excitement came on; the pulse rose in strength and frequency; the tongue was rather foul; some intolerance of light, and increase of the sensation of general uneasiness, complained of. He was bled to twelve ounces, but continued to grow worse; the breathing became more difficult: and, in the evening, he died in the presence of the house-surgeon, who had been called to him. The heart's action continued for five minutes after all respiratory movements had ceased, and in a few minutes after death the skin became livid and mottled.

*Sectio cadaveris, twenty hours after death.*—Though the body has been lying on the face, the posterior surface is much discoloured, especially about the neck and shoulders. The sixth cervical vertebra was found to have been dislocated forwards, the fibro-cartilage being torn from the inferior surface, and the anterior and posterior common ligaments, and ligamenta subflava, were torn across; the tip of the right transverse process of the seventh vertebra was also fractured; the spinal cord was entire and uninjured, but was pressed upon the body of the seventh, and the arch of the sixth cervical vertebra, and there was but a slight degree of effusion on its surface; the lungs, kindneys, and brain, were found engorged with blood, but with their structure healthy; the ventricles of the brain contained a small quantity of bloody serum; the bladder was distended, and its mucous membrane pale and softened.—*Provincial Med. and Surg. Journ.*

### CASE OF RUPTURE OF THE BLADDER.

At a meeting of the Dublin Pathological Society, (Dec. 6, 1845), Mr. Hamilton detailed the following case:—A man had been drinking on Sunday in a public-house, when a quarrel arose between him and another; they adjourned into the street to fight, when, in the scuffle, they both fell, the man who suffered the injury undermost. He immediately after arose, went to the side of the street, and lay down, complaining of some pain in his abdomen. He soon after became so faint that he required to be conveyed home. Upon reaching home, he was put to bed; but, the abdominal pain continuing, and being tormented with repeated though ineffectual desire to pass water, at nine o'clock in the evening of the next day, Monday, (nearly twenty-four hours after the accident), a surgeon was sent for. This gentleman bled him, and having introduced the catheter, drew off about three pints of slightly sanguinolent urine. He gained, however, no relief; the pain in the abdomen still continued, and the next evening he was conveyed to the Richmond Hospital. Upon his arrival at the hospital, he was examined by Mr. Greene, the resident medical pupil, who found the abdomen much swollen, with a marked fulness about the epigastrium; it was very painful; his pulse was 130, and very feeble; he had passed no water since the employment of the catheter on the previous evening. Mr. Greene introduced the catheter, and drew off about three pints of natural looking urine; some leeches were applied to the abdomen: but, notwithstanding these means, he continued rapidly to become worse, and when seen by Mr. Hamilton the following (Wednesday) evening, he was in a dying state.

The *post-mortem* examination was made by Mr. Greene. Upon opening the cavity of the abdomen, the intestines were found glued together by recent adhesions: the bladder was collapsed, and a large transverse rent was discovered at its posterior fundus. The adhesions had tied the small intestines together in such a manner as to produce a cavity above the bladder, in which the urine escaping from this viscus through the rupture was permitted to accumulate without becoming diffused through the general cavity of the peritoneum. This circumstance explained the facility with which the urine had been drawn off by the catheter, inasmuch as the extremity of this instrument could easily pass through the rupture in the opposite fundus into this portion of the

peritoneum thus bound by adhesions. The rupture was much more considerable through the peritoneal coat than through the more contractile muscular and mucous membranes.

Dr. Harrison accounts for the fact, that the rupture always occurs at the superior fundus, by the circumstance of the bladder being always in a distended state when the accident occurs, and rising above the pubis into the hypogastrium, it is subject to be compressed against the sacro-lumbal prominence of the spine.—*Dublin Hospital Gazette.*

### IMPRESSMENT OF SURGEONS IN THE SEVENTEENTH CENTURY.

THE following mandate of Charles I. to the masters and wardens of the Barber-Surgeons' Company, is still preserved among the archives of the Hall :—

"After our very hearty commendations: Whereas, there is present use for a convenient number of chirurgeons for the 4000 land soldiers that are to be sent with his majesty's fleet, now preparing for the relief of Rochelle, these shall be to will and require you, the master and wardens of the company of Barber-Chirurgeons, forthwith to impress and take up for the service aforesaid, sixteen able and sufficient chirurgeons, and that you take special care that they be such in particular as are best experienced in the cure of wounds made by gun-shot; as likewise that their chests be sufficiently furnished with all necessary provisions requisite for the said employment. And that you charge them upon their allegiance, as they will answer the contrary at their perils, to repair to Portsmouth by the 10th of July next, to go along with such commanders in whose company they shall be appointed to serve. And you are further, by virtue hereof, to require and charge of all mayors, sheriffs, justices of the peace, bailiffs, constables, headboroughs, and all other his majesty's officers and loving subjects, to be aiding and assisting with you in the full and due execution of this our letter. Whereof neither you nor they may fail, of your perils, and this shall be your warrant. Dated at Whitehall, the last day of June, 1628. Your loving friend." The letter is signed by several of the Lords of the Council. A memorandum has been added at the bottom of the warrant, that "The master and wardens' power and authority to impress surgeons, is by their charter and ordinances confirmed by the judges, but have not usually exercised lawful authority, but upon such like order as above written, either from the Lords of the Council or principal officers of the navy." In another order, of the date 1672, twenty chirurgeons, thirty chirurgeons' mates, and twenty barbers, are all grouped together; whilst in a third, referring to the reign of William and Mary, Peter Smith and Josias Wills, the company's officers, are desired to deliver to "*every person by them impressed, one shilling impress money.*" If these duties were of an unpleasant nature, what must have been that of turning constable, and running about to seek surgeons, who, not liking their mode of introduction into the navy, or the navy itself when they got there, took the liberty of otherwise disposing of themselves? Yet this, too, was imposed upon them, as we find from a mandate under the hand of Monk, Duke of Albemarle, in 1665, directing the apprehension and safe custody of "John Shoaler, chirurgeon to his majesty's ship the *Return*," for neglecting his duty."

## Correspondence.

### REMEDY FOR DEAFNESS.

SIR,—The following combination affords a very effective remedy in deafness arising from atony of the auditory nerves, accompanied by deficiency of cerumen. The ammonia produces gentle stimulation, and the ox-gall supplies the place of the natural secretion. A marked improvement speedily occurs in cases which are adapted to its employment.

The ears must first be syringed with a solution of soap in warm water, and the liniment applied, morning and night, to the whole surface of the meatus auditorius by means of a camel's hair pencil. The effect will be augmented by lightly plugging the external orifices with wool.

*Liniment for Atonic Deafness.*

℞ Linnimenti Camphoræ Comp. ℥j.;
Fellis Bovini Inspissati, ʒj. Misc.

I am, sir,
Your obedient servant,
R. H. ALLNATT, M.D.

7, Suffolk Place, May 21, 1846.

### CASE OF POISONING FROM STRYCHNIA.

BY J. C. EVANS, ESQ. TURNHAM GREEN.

M. H. B., æt. 26, of tall and spare habit, much addicted to drink until the last nine months, when he suddenly left it off and took to opium-eating, consuming latterly from two to three drachms every day.

I was sent for by his friends about seven in the morning, on the 17th of November, 1845. The messenger stated that they were afraid his young master had taken too large a dose of opium.

I found him lying on the hearth-rug, dead. The body was quite stiff, as also were the upper and lower extremities, and the nails, which were very long and sharp,

deeply imbedded in the palms of the hands. The pupils were dilated, and the eye-balls protruded more than when living. Mouth urrounded by a quantity of dark frothy-ooking saliva, and the teeth firmly closed.

There were no marks of injury about the body.

On the floor, by his side, was a tumbler half-full of water, of a slight milky hue, and close to it there was a small quantity of a dirty white-looking powder. This was carefully collected. It looked like some of the preparations of morphine. Inside the fender was a piece of paper (evidently part of a powder paper), the foldings at one end still unhurt.

His mother and sister stated that they had left him sitting at the table reading when they retired for the night, about 10 o'clock; there was nothing in his manner indicating any thing unsual; after kissing them, he desired one of his sisters to get him a glass of water.

He had been in a very low melancholy state of mind for some time past. About ten days ago he went to town to see a physician, who had told him that he had got disease of the heart, recommended him to be very careful of himself, and break himself of opium eating.

*Post-mortem thirty-six hours after death.* — The vessels of the head were turgid, but the brain and membranes were healthy.

The lungs were healthy, but gorged with blood, except the inferior lobe of the left, which was slightly adherent to the pleura costalis.

The heart was larger than natural, and filled with coagulated blood; the right ventricle was not enlarged, but the left was much dilated, and the walls very thin. The valves were slightly ossified.

The liver and kidneys were quite healthy. The spleen was rather large (he had had ague five years ago), and slightly gorged with blood.

The stomach contained a small quantity of a dark greenish-looking substance resembling coffee-grounds, and a quantity of extremely fœtid gas, as also did the intestines.

The stomach and its contents were boiled in a pint of distilled water for about three-quarters of an hour, and then strained; the liquid was then carefully evaporated down to about four ounces. It *was extremely bitter, like gentian*, and of a milky-looking colour; but on adding an ounce of liquor ammoniæ, it became quite clear. On adding some strong sulphuric acid to a small quantity of the fluid, it became of a beautiful rose-pink colour.

I was at first tempted to think that he had taken morphia; but the *extreme bitter gentian-like taste*, and the absence of the opium-like smell, were sufficient to distinguish between them.

May, 1846.

*** Perhaps our correspondent can furnish us with some additional details of the analysis, as it at present leaves the nature of the substance quite uncertain. Was there any direct evidence to shew that strychnia had been taken by the deceased?

## Medical Intelligence.

### MIDDLESEX HOSPITAL.

The governors and friends of the Middlesex Hospital had their annual dinner at the Freemasons' Tavern on Friday last, Mr. Pownall in the Chair. This being the first anniversary after their grand centenary festival, when upwards of 300 noblemen and gentlemen attended, the meeting was comparatively small, but the subscriptions were liberal, amounting to nearly £500: including Her Majesty, the patron, £105; the Duke of Northumberland, president, £50; Mr. Pepys, vice-president, £10; Mr. Charles Wardell, vice-president, £21; Miss West, £30, &c. The dinner was excellent. The usual loyal and patriotic toasts were duly honoured, and Messrs. Hatton, Hawkins, &c., contributed to the general harmony of the evening. We understand that the whole of the receipts at the centenary festival (upwards of £4,000) have been devoted to the improvement and enlarged usefulness of the hospital, and that yet further donations are required to enable the hospital to meet the demands of the densely populated neighbourhood in which it stands. The architect has prepared plans, which have been approved by a general court; but the funds in hand will only permit a portion of the improvements to be carried out during the present year.

### REMARKABLE CASE OF THE DEVELOPMENT OF HEAT IN THE DEAD BODY.

Dr. Düsterberg reports the following extraordinary case:—A man, aged 50, who for a considerable time had been the subject of a chronic affection of the spleen and of dropsy, died suddenly of apoplexy. After the body had remained above ground for three days, and was about to be buried, Dr. D. was requested to see it, for the evidence of a considerable degree of warmth had excited suspicions that death was only apparent. Although the corpse lay in a spacious room with the windows open, yet the stench it emitted was so intolerable that it could scarcely be approached. The face was swollen, of a bluish colour,

and quite disfigured; the pupils were reduced to a pulp, the corneæ flaccid, and a faint-smelling brownish fluid oozed from the mouth. The limbs were relaxed, and the surface of the body covered with post-mortem spots, and with vesicles filled with a bluish fluid. The skin generally, however, was not only warm, but actually felt quite hot, its temperature amounting to 31° R. (102° Fahr.), whilst that of the room was only 17° R. (70° Fahr.) Moreover, the surface of the body was covered with moisture, which, when wiped off, shortly reappeared, just as would the fluid of respiration. However remarkable this phenomenon may be in a physical point of view, yet the far advanced state of decomposition removed all doubt as to the reality of death.—*Casper's Wochenschrift*, April 4, 1846.

*** The very high temperature observed in this case was most probably due to the chemical decompositions which were going on in the body. Some singular facts connected with the extraordinary development of heat in the bodies of those who have died from yellow fever, have been reported by Dr. Dowler, of New Orleans, in the *Western Journal of Medicine and Surgery* for June 1844.

### A FEE FROM A DEAD MAN'S POCKET.

A SOMEWHAT remarkable trial has just taken place at Glasgow, in the shape of an action for damages, in which a Dr. Donnelly, surgeon, was pursuer, and a Mr. Scott, editor of the Greenock Advertiser, was defender.

The facts, as we gather them from a long report of the trial, were as follows:—A poor man of the name of Ruddock, while living at a low lodging-house in Glasgow, kept by a Mrs. Duncan, was taken ill, and died. While the man was lying in a dying state, at about three o'clock in the morning, Mrs. Duncan despatched another of her lodgers for medical assistance. The messenger was directed to the house of Dr. Donnelly, and after a time this gentleman was roused, by the united efforts of the watchman and the messenger, and appeared at the door in his night-clothes. When he was told by the messenger that he was wanted immediately, and that there was a man dying, he distinctly impressed on the mind of the messenger that his lowest fee was *five shillings*. He was then told that those who sent for him would pay him. He immediately went to the house; but the man was dead. The question of the fee was then mooted between the messenger and the lodging-house keeper. The latter "then went into the room, lifted the man's clothes, and handed them to the doctor, and told him to examine them for money, but he declined. She then put her hand into one of his pockets, and got to the amount of 4¾d. She next put her hand into another pocket, and took out two half-crowns, saying something like 'this would do.' On laying the two half-crowns on the table, she gave them a push towards the doctor, saying, 'that pays you,' or 'that is for you, Doctor.' I (the witness) do not recollect what were the precise words."

"What did the doctor do?"

"He lifted the two half-crowns as they were pushed to him. There was nothing else occurred. The doctor left the house. I am sure the doctor did not touch the clothes of the dead man."

The defender having obtained an account of the matter from the book of the Greenock Police Court, published in his newspaper, *inter alia*, the following account:—

"That Dr. Donnelly came in and gave the body a shake, and, finding life extinct, said the man was dead, and then demanded 5s.; that he took 5s. from off the body of the man, and refused to give it up. Dr. Donnelly admitted having taken the 5s. but said that he had stipulated with the person who had called for his advice that he must have a fee of 5s., and therefore he took the first of the effects."

It was of this statement that the defender complained, as being liable to injure him in his private character and professional capacity. One witness deposed that he gave the body a shake, but it was clearly established that he did not take the five shillings from off the body. All agreed that the landlady took the money from the pockets of the deceased (the whole amounting to 5s. 4¾d.), separated the coppers from the half-crowns, and "shoved" the silver towards the doctor. One witness thought that, under the circumstances, it would be more reasonable to leave one of the half-crowns. The doctor, however, took them up and walked away.

The Lord Justice Clerk summed up rather strongly against the defender:—He said, "That, in reference to the plea of justification, the defender must prove the very words of the issue to the very letter. It was not enough to say that the defender had proved what was equivalent, by the pursuer's witnesses. The issue in justification offers to prove that the pursuer had, without lawful authority, taken the sum of five shillings off the body of the deceased, and it would not do to say that it was equivalent to its having been taken out of the pockets of the man's clothes."

The jury thereupon returned a verdict for the pursuer, with £100 damages.

We are not surprised to find that an exception was taken to his Lordship's judgment, and that the case is likely to go before a higher tribunal. Undoubtedly

damage would occur to Dr. Donnelly from such a report finding circulation, but was this damage entirely and exclusively dependent on the question whether the five shillings were taken off the *body* of the man or off the *table*—or would it not rather proceed from a fair report of the whole transaction? We know that by the members of no profession is so much done gratuitously for the poor as by medical men, and that vexatious services are often thrown upon them, to their loss and injury; nevertheless, we believe that no professional man ever yet suffered in the end by the adoption of a liberal course of conduct. The taking of a fee from the poor and destitute, whether in respect to the living or dead, is entirely a matter of taste; there is no rule in medical ethics respecting it. We by no means dispute Dr. Donnelly's right, more especially as he was in his night-clothes at the time the bargain was struck, to make a preliminary arrangement that five shillings should be paid to him for attendance at the lodging-house;—nor shall we contest his right to insist upon the payment of the five shillings, although his medical services consisted in giving the man a shake and pronouncing him dead; but we cannot avoid expressing an opinion that most medical practitioners, in such a case, would have declined taking the fee. It appears to have comprised the whole of the deceased's personal estate, with the exception of the 4¾d., which went to the landlady for the payment of board and lodging! We have heard that, on one occasion, a barrister on circuit was charged at the bar-mess with having acted unprofessionally in taking silver in payment of his fee from a client; but he immediately and most triumphantly justified himself by declaring that the honour of the profession could not suffer by the transaction, because he had taken every sixpence which his client possessed! Henceforth the medical may share the *dis*credit of a proceeding of this kind with the legal profession. In our judgment the damages were excessive. If the jury were disposed to give damages at all, they should have awarded the amount of the fee. It is surely a mere verbal quibble to refer all the injury likely to be done by a report of the case, to the statement that the money was taken from off the body. According to the Lord Justice Clerk's ruling—*i. e.* the necessity of proving "the very words of the issue to the very letter,"—had the defender stated that the money was taken from off the table, and it was proved to have been taken off a stool or the window-sill, the verdict must have equally gone against him! There was no proof of wilful malice in the case; it was merely the publication of an unauthorized police-office report; and therefore, it appears to us, the Court was bound to look to the effect of a report of the whole transaction, in judging of the damage sustained by the pursuer.

### ON CALCAREOUS SALTS IN WATER.

M. Dupasquier has lately presented to the Academy of Sciences, a paper on the effects of calcareous salts in potable water, in which he states that all the soluble calcareous salts, with the exception of the bicarbonate of lime, are injurious to the stomach, and also harden the vegetables which are cooked in the water containing them. The bicarbonate of lime, however, produces no bad results; and is on the contrary favourable to digestion in the same way as bicarbonate of soda.

### THE LATE MR. JOHN SCOTT.

We understand that the late John Scott, Esq. Surgeon to the London Hospital, has bequeathed the whole of his property, amounting to about £150,000, to the Missionary Societies.

### STATE OF PUBLIC HEALTH IN IRELAND.

According to papers lately presented to Parliament, the accounts received from the several medical superintendents of public institutions (fever hospitals, infirmaries, dispensaries) in the provinces of Ulster, Munster, Leinster, and Connaught, are of a very serious nature. From almost every part of Ireland they display a melancholy uniformity. Disease originated or increased by the scarcity or unsoundness of food, is in the majority of instances actually present to an extent not to be met by the resources of the locality. In other cases, with all the causes present, a similar state of things is seriously and immediately apprehended.—*Law Times.*

### UNIVERSITY COLLEGE HOSPITAL.

The foundation stone of the North Wing of University College Hospital was laid on Wednesday last, by Lord Brougham. It is intended to afford accomodation for fifty additional beds. The main body of the hospital was built in 1833—4, and the South wing in 1838.

### HONOURS CONFERRED ON BRITISH MEDICAL PRACTITIONERS.

Louis Philippe has lately nominated to the Legion of Honour, Dr. Olliffe of Paris, and Mr. Shrimpton, who is attached to the Medical Staff of the Army in Algeria.

### PROSECUTION OF M. RASPAIL FOR THE ILLEGAL PRACTICE OF MEDICINE.

M. Raspail has been recently summoned before the Correctional Tribunal of Paris, to answer a charge of practising medicine illegally. The accused, it appears, has not

taken a degree in the Academy of Medicine. M. Raspail appeared in person, and demanded time for the preparation of his defence:—he also requested to know who were the accusers. It appears that the prosecution has been undertaken by a Parisian Medical Association, on a document signed by MM. Orfila and Fouquier. The case has been remanded for a week.

### SYRIAN MEDICAL PRACTICE. MODE OF REMUNERATING MEDICAL PRACTITIONERS.

The physician of the late Lady Hester Stanhope gives the following account of the state of medical practice in Syria. He was called in to attend the son of Ahmed Bey. "There were three physicians present—a Turk, and two Christians. The boy was about thirteen or fourteen, ugly, of diminutive stature, and somewhat humpbacked. He was labouring under anasarca, consequent on a long intermittent fever. After examining him, I said I saw no reason to doubt the possibility of curing him. I was then asked how I would do it, which I declined telling; for I had no one but my servant for an interpreter, and the little Italian which he knew made it impossible to explain my intention clearly. The Bey told me that nothing had been left unattempted which the faculty of the city could think of. His son had been sewed up in a sheep's skin, fresh from the warm carcase: he had taken pills made of powdered pearl: he had lived for six days on nothing but goats' flesh: he had had pigeons' skins put hot to his feet, but all had proved unavailing! I merely observed, that these remedies might have much merit in them, but that the practice of medicine in England was somewhat different, and if he wished me to prescribe, my first condition was that I should not be controlled by any body. After some conversation, I went away. About three hours afterwards I was summoned again, and desired to act as I chose. I was fortunate enough to restore the boy to perfect health; and the father signified to me that he would thank me in the Eastern way. On an appointed day, I was conducted to the vestibule of the bath, where Suliman Bey, attended by half a dozen servants, awaited my coming. We undressed and entered the bath, having each a silk apron on. About an hour was consumed in the ceremonies of shaving the head, washing, depletion, &c. after which he returned to the dressing-room, where we were enveloped in embroidered napkins, and lay down to repose. Pipes, coffee, and sherbets were served. When it was time to dress, the Bey ordered a page to invest me with the dress of honour, which had been prepared for me. It consisted of an entire suit of Turkish clothes, with a pelisse and three pieces of Damascus silks, not made up. The whole might be valued at fifty pounds."

### STATISTICS OF PATIENTS IN THE PARISIAN HOSPITALS AND INFIRMARIES FOR THE FIRST QUARTER OF 1846.

| | | Admitted on the 1st of the month. | Admitted during the month. | Totals. | Discharged. | Died. |
|---|---|---|---|---|---|---|
| January | Hospitals | 5412 | 6782 | 12194 | 6656 | 673 |
| | Infirmaries | 10624 | 1079 | 11703 | 796 | 249 |
| February | Hospitals | 5865 | 6112 | 11977 | 5379 | 665 |
| | Infirmaries | 10658 | 1041 | 11699 | 715 | 241 |
| March | Hospitals | 5933 | 6952 | 12885 | 6178 | 735 |
| | Infirmaries | 10743 | 1181 | 11924 | 925 | 250 |
| | Totals | 49265 | 23147 | 72382 | 20649 | 2813 |

*Gazette Médicale*, Mai 16, 1846.

### NEAPOLITAN HOSPITALS.

About 2500 children are received yearly into the hospital for new-born children, and about 1500 are brought up in the institution. All the children are suckled by nurses, except those which are affected with contagious diseases. Each nurse takes three children. The mortality is very great, amounting to 77 per cent. A recommendation was made by the late Neapolitan Medical Congress, that the number of nurses should be increased, and that females from the country should be selected.

The Ospedale degli Incurabili is one of the largest of the Civil Hospitals of Naples. It contains 1300 beds! There is a strange practice in this hospital of keeping a ward of 104 beds expressly for those patients who are at the point of death. When a patient is given up by his medical attendants, he is taken off to this ward! The Congress has remonstrated against the continuance of this

barbarous practice. — *Gaz. des Hôpitaux*, Mai 5e.

*** This is not the only strange practice in the Incurabili. We have seen instances where the appliances of the surgeon were set aside to the injury of the patient for the intrusion of all kinds of priestly mummery, in the shape of relics of saints and martyrs —of pieces of the true cross, &c. applied for the miraculous cure of surgical diseases.

### COLLEGE OF SURGEONS' PRIZES.

THE triennial prize of fifty guineas for the encouragement of anatomical and physiological discoveries has been awarded to Mr. Holmes Coote, F.R.C.S. of Saint Bartholomew's Hospital: and the Jacksonian prize for 1846, for a dissertation on Tumors of the Uterus, has been awarded to Mr. T. S. Lee, M.R.C.S.

### OBITUARY.

PROFESSOR MEIKLEHAM, of Glasgow, died on Thursday, at his house in the College. His removal strikes off the last link, except one or two, of those which remained to connect the present Professors with the distinguished men—Millar, Jardine, Wilson, Young, Richardson, and others, who, about the close of the last, and the commencement of the present century, shed ustre on the University, and conferred signal benefits on education. Of these men, Dr. Meikleham was first the pupil, and afterwards the colleague; and by all of them he was held in high esteem as a man and a scholar. When a very young man, he was employed to teach Natural Philosophy during the illness of Professor Anderson, and his successor, Dr. Brown. His success in the discharge of his duty, combined with the character which he had previously formed, caused him to be appointed Rector of the Academy of Ayr; and that seminary prospered greatly during his incumbency. In 1799, he was appointed Professsor of Practical Astronomy in the University; and in 1803, he was promoted to the chair which has now become vacant by his death. In discharging the duties of his important office, he was always most faithful, zealous, and assiduous. Despising everthing like display, he was, perhaps, more retiring than might have been advisable; and he was, in consequence, less known to the scientific world and to the public at large, than many who were far below him in scholarship and talents. Among his friends, and such of his students as were capable of appreciating his merits, he was justly regarded as a man of extensive scientific attainments, an accomplished general scholar, and a man of acute mind and sound judgment.—*Greenock Advertiser.*

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, May 9.*

| Births. | | Deaths. | | *Aver. of 5 yrs.* | |
|---|---|---|---|---|---|
| Males.... | 718 | Males.... | 431 | Males.... | 493 |
| Females . | 696 | Females . | 410 | Females . | 475 |
| | 1414 | | 841 | | 968 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts*, 129. *Population, in* 1841, 1,915,104.)

| | | |
|---|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. | (Pop. 301,326) | 145 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... | (Pop. 366,303) | 165 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ..... | (Pop. 374,759) | 166 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ..... | Pop. 393,247) | 167 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ..... | (Pop. 479,469) | 198 |
| Total ..... | | 841 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Springs; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 841 | 892 | 968 |
| SPECIFIED CAUSES ..... | 837 | 886 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 130 | 162 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 86 | 98 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 142 | 155 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 279 | 271 | 294 |
| 5. Heart and Blood-vessels ..... | 27 | 26 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 72 | 65 | 72 |
| 7. Diseases of the Kidneys, &c... | 11 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 15 | 9 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 18 | 6 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 2 | 1 | 2 |
| 11. Old Age ..... | 39 | 60 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 16 | 25 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 7 | Convulsions .... | 45 |
| Measles ..... | 13 | | |
| Scarlatina ..... | 11 | Bronchitis ..... | 41 |
| Hooping-cough.. | 58 | Pneumonia..... | 59 |
| Typhus ..... | 15 | Phthisis .....147 | |
| | | Dis. of Lungs, &c. | 9 |
| Dropsy..... | 10 | Teething ..... | 8 |
| Sudden deaths .. | 7 | Dis. Stomach, &c. | 5 |
| | | Dis. of Liver, &c. | 10 |
| Hydrocephalus .. | 29 | | |
| Apoplexy..... | 21 | Childbirth ..... | 10 |
| Paralysis..... | 17 | Dis. of Uterus, &c. | 5 |

REMARKS.—The total number of deaths was 51 below the vernal and 127 below the annual average. The deaths from Zymotic diseases have become remarkably reduced, and, with the exception of hooping-cough, are much below the averages. In the West districts, the mortality was above the average. In all the others, it was below.

## METEOROLOGICAL SUMMARY.

| | |
|---|---|
| Mean Height of Barometer | 29·62 |
| „ „ Thermometer[a] | 55·2 |
| Self-registering do.[b] ..... max. | 94· min. 33·5 |
| „ in the Thames water. — | 60· — 53·2 |

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·12: sum of the daily observations taken at 9 o'clock.

*Meteorological.* — The mean temperature of the week was 1·2° above that of the mean temperature of the month (54°). The extreme hebdomadal range in the self-registering thermometer was 60·5°.

## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

FRIDAY, *May* 15.—J. F. Reeve.—T. J. Sturt.—P. M. Duncan.—F. B. Fulcher.—J. Lafarelle.—J. S. Fletcher.—W. F. Clay.—E. H. Mockler.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *May* 14.—John William Williams, Southwell, Notts.—Metcalfe Johnson, Wisbeach, Cambridgeshire. — Richard Gravely, Cowfold, Horsham. Sussex.—William Andrews.—William Henry Pilkington, Haslingden, Lancashire.

## GERMAN MEDICAL BOOKS

LATELY PUBLISHED.

Ueber die Hypochondrie von I. L. Brachet, Prof. in Lyon. Ins Deutsche übersetzt unter Redaktion des Dr. G. Krupp.—Die chirurgische Praxis. Nach den Vorlesungen der berühmtesten englischen Wundärzte: Brodie, Cooper, Charles Bell, Hawkins, Liston, Guthrie, Arnott, Syme, etc. Herausgegeben unter Redaction des Dr. Fr. J. Behrend. — Zeitschrift der kaiserl. königl. Gesellschaft der Aerzte zu Wien. Redakteur: Dr. Zehetmayer.—Die Heilquellen des König Otto-Bades bei Wiesau. Von Fr. Rud. Müller.—Medizinische Bibel oder die Gesundheits-Störungen und ihre Ausgleichung. I. Theil. I. Lieferung. — Hand-Atlas der Anatomie des Menschen. Von Prof. Dr. C. E. Bock. 2. Auflage, mit 28 durchaus neuen und theilweise colorirten Stahlstichen.—Handbuch der Anatomie des Menschen, mit Berücksichtigung der neuesten Physiologie und chirurgischen Anatomie. 2 Bände.—Anatomisches Taschenbuch, enthaltend die Anatomie des Menschen.—Pickford, quaedam de narcoticis, commentatio. — Rau, de sanguineo tumore genitalium feminae. —Ein Beitrag zur Verständigung über die Reformen des Preussischen Militair-Medicinal-Wesens, von Dr. J. C. H. Metzig, Königl. Preuss. Bat.-Arzt.—Bericht ueber die Resultate durch den Gebrauch des Mikroskops. Aus dem Englischen uebersetzt von Dr. Raim. Melzer.—Die Hydro-Homöopathie. Von dem K. Landgerichsarzt Dr. F. A. Ott.—Sponholz, C. M. F., Allgemeine und specielle Statistik der Medizinal-Personen der Preussischen Monarchie. - Landmann, Dr. S., Centralarchiv für praktische Chirurgie und Geburtshilfe. I. Jahrgang. 1845. Mit Abbild.—Gedike, Dr. C. E., Anleitung zur Krankenwartung.—Haase, C. A. Min. Cand. Das Stottern, oder Darstellung und Beleuchtung der wichtigsten Ansichten über Wesen, Ursache und Heilung desselben, nebst Abhandlung des Hieronymus Mercurialis "De Balbutie." Für Pädagogen und Mediciner.—Der Zahnarzt. Das Neuste und Wissenswürdigste des In- und Auslandes ueber Zahnheilkunde.—Die Annalen der Physik und Chemie herausgegeben zu Berlin von Dr. J C. Poggendorff. Jahrgang 1846. Band 67, 68· 69.—Lehre von den wichtigsten in der Medicin· und Chirurgie gebräuchlichsten Bandagen und Maschinen nebst Beschreibung der dieselben indicirenden Uebel, besonders der Fracturen uud Lnxationen von Dr. H. E. Fritze. Zweite Auflage. 1846.—Magazin für physiologische und klinische Arzneimittellehre und Toxikologie. Von J. Frank. — Der Mediziner, Berliner, Wochenblatt für ärztliche Neuigkeiten. Herausgegeben von Dr. M. Kalisch. Jährlich 52 Nummern in Folio. Jahrespreis 2 Thlr.—Centralarchiv für die gesammte Staatsarzneikunde. Herausgegeben von J. B. Friedreich. Dritter Jahrgang. 1846.—Autenrieth, J. H. F. v., und H. Fr. Dr. Prof., Gerichtlich-medic. Aufsätze und Gutachten. — Quenstedt, Fr. A., Prof., Petrefaktenkunde Deutschlands. Mit besonderer Rücksicht auf Würtemberg.—Lincke, Dr. Carl Gust., Handbuch der Ohrenheilkunde. II. Band. Nosologie und Therapie der Ohren rankheiten.—Wolff, Dr. Ph. Heinrich, die Nervenkrankheiten des Ohrs, die Taubstummheit und die Ohrenoperationen.—Allgemeine Pathologie, oder allgemeine Naturlehre der Krankheit. Von Dr. Karl Wilhelm Stark. - Vorlesungen über die Lungenschwindsucht deren Natur, Erkenntniss und Behandlung von Dr. John T. Evans. Deutsch unter Redaction des Dr. Friedr. J. Behrend.—Vorlesungen über specielle Pathologie und Therapie der innern Krankheiten des Menschen von Dr. Grisolles. Deutsch unter Redaction des Dr. Friedr. J. Behrend.—Ueber die Natur und den Nutzen der Galle. Eine chemisch-physiologische Abhandlung von C. A. Platner, Privatdocent in Heidelberg. — Geschichte der medizinischen Schulen und Systeme des neunzehnten Jahrhunderts in Monographieen. Nach den Quellen bearbeitet von Dr. B. Hirschel.—Abhandlungen aus dem Gebiete der Physiologie und Pathologie. Für Aerzte und Naturforscher von Dr. P. F. H. Klenke.—Medizinisches Correspondenzblatt bairischer Aerzte, redigirt unter Mitwirkung vieler Aerzte von D. H. Eichhorn, konigl. Landgerichtsarzt in Gunzenhausen.—Heidenhain, Dr. H., das Fieber an sich und das typhöse Fieber, physiologische, pathologische und therapeutische Untersuchungen.—Remak, Dr R., Diagnostische und pathogenetische Untersuchungen, in der Klinik des Herrn Geh.-Raths Dr. Schölein, auf dessen Veranlassung angestellt, und mit Benutzung anderweitiger Beobachtungen veröffentlicht.

## NOTICES TO CORRESPONDENTS.

A. A. B.—A very considerable reduction in the fees has been lately made in some of the London Hospital Medical Schools. We think our correspondent will find upon inquiry, that Lecturers are far from being an overpaid class, and we doubt whether the further reduction of fees is likely to increase their emoluments. We refer A. A. B. to p. 1001 of our last volume.

In the next number, we shall commence the publication of a course of Clinical Lectures on Surgery, delivered at St. George's Hospital by Mr. Cæsar Hawkins.

Arrangements have been made for the publication of Professor Faraday's Lectures on Electricity and Magnetism, now in course of delivery at the Royal Institution. They will be shortly commenced.

Dr. Muspratt's request shall be attended to.

We must again apologize to several correspondents for the unavoidable postponement of their papers.

*Received.*—Dr. R. C. Golding.—A. A. B.—Mr. Henry Lee.—Dr. Muspratt.—Dr. R. H. Allnatt. —Mr. Copeman.

*Erratum.*—In Dr. Golding's paper, p. 854, col. 1, line 5 from bottom, for "fully acid," read "feebly acid."

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*** See Medical Gazette of September 26, 1845, page 962.

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## Lectures.

SUBSTANCE OF A

# CLINICAL LECTURE,

*Given at St. George's Hospital,*

By Cæsar Hawkins, Esq.
Surgeon to the Hospitai.

1. *Uterine phlebitis—secondary abscesses.*
2. *Fractured thumb—inflamed absorbents—secondary abscesses.*
3. *Cut throat—secondary abscesses—gangrene of the arm.*

In my last accident week were admitted three cases of very different nature, which have all terminated fatally from an affection of the same kind. In one of these a woman had gone through what thousands of her sex experience—I was going to say—every hour, with impunity; but there took place in her, before her admission, an additional disease, of which she was obviously likely to die, when she came under our notice. The others were admitted with apparently trivial injuries, which ought usually to have got well without difficulty, but they have not been so fortunate; and the cause of death in all these has been one from which a great number of the deaths in the surgical wards arise, namely, the formation of what are called secondary abscesses. Its fatality makes the subject one of great interest, and I will bring it under your consideration to-day.

The first case is that of Elizabeth Collins, 29 years of age, who was admitted on the 8th of April, having a large and deep ulcer opposite the sacrum, from which a slough had come away, and which was feebly granulating. This, you will observe, is no more than may occur to any one with severe illness, and is only the effect of lying, and of this she would have recovered without difficulty. There was also a large abscess opposite the inferior angle of the left scapula, which was of a more formidable character, as we shall presently see. There was also great œdema of the left leg and thigh, which was exceedingly painful, and the veins of this leg were tender on pressure; and there was some swelling of the right leg to a less extent. Her pulse was quick and weak, 96; tongue clean; much emaciation.

She was confined about a month ago, and had a very severe labour, and was confined to bed the whole of that time until her admission. As the illness was attended with some delirium no subsequent history could be obtained: she was, however, in good health previous to confinement. So say our notes, but I have since learned from Dr. Henry Davies that she had, as might be anticipated, the usual symptoms of uterine phlebitis, and, as a consequence of this, she had swelling of the legs, which is called phlegmasia dolens, or phlegmasia alba dolens; the blood being unable to return through the obstructed veins, the overloaded vessels relieve themselves by pouring out serum, or serum mixed with lymph, producing more or less hardness of the swelled limb, and more or less pain, according to the degree of inflammation and tension present. Our patient, you observe, had some pain in the left leg, in which the swelling was greatest, but the other limb also was somewhat swelled, the return of blood by circuitous channels being not even yet fully established. The swelling arises, therefore, from a mere mechanical cause, and is very common after parturition or other miscarriage, and its cause has been pointed out by many writers of late years, but yet it is occasionally overlooked. I lately attended a young lady with Dr. Seymour and Dr. Ferguson, who twice had this swelling of one leg after miscarriage, but the nature of the affection had not been mentioned to her, and she had been allowed to walk about, and hang her leg down, while by elevating the leg so as to facilitate the return of venous blood from the extremity by its own gravity, with the application of four or five leeches to the groin, where the vein was painful, the swelling nearly disappeared in twenty-four hours. In our patient, also, you saw that rest alone was quite sufficient to remove the effusions into the cellular tissue.

But she had also an abscess in the back, which was of a more formidable character than the sloughing over the sacrum, or the swelled legs; I opened it the day after her admission, and let out about a pint and a half of putrid pus. The patient at first improved a little in her general health, but on the 14th the notes say:—The abscess is discharging more healthy pus, and the ulcer on the sacrum is granulating; the right leg is also much less swollen, but there is considerable swelling, with fluctuation in the right knee-joint; in fact, a secondary abscess was forming of the same character as that of the back. On the 20th the knee was less painful, but a good deal swollen; and in the left knee was also some slight pain; but there were no perspiration or rigors. On the 23d there was muco-purulent expectoration with a little cough. On the 24th the right knee was less painful, but more fluid was contained in it, and I punctured it with a grooved needle to ascertain the proportion of pus to the synovia, and finding that there was a good deal of the latter fluid I applied a blister to give what chance there was of

absorption. It did not succeed, however, and on the 26th I opened the joint and let out half a pint of matter, with very little synovia now mixed with it; this also gave no relief to the system; she had profuse perspiration, and gradually got weaker till May 2d, when she died.

On examination after death it was found that both lungs were slightly emphysematous anteriorly, but the other parts of these organs were healthy with the exception of the back part of both inferior lobes, which were congested, œdematous, and soft in texture, but still permeable to air. The heart was healthy; fibrinous coagula were found in the right cavities only.

The abdomen, liver, spleen, and intestinal canal, presented nothing remarkable. The kidneys were somewhat larger than natural, and soft and coarse in structure; their surfaces were perfectly smooth, but they presented numerous stellated veins; they were very much congested, and their cortical structure was mottled, but the other parts were healthy. Uterus of a natural size, but of a darkish colour; os uteri widely dilated, with congested lips; mucous membrane of the uterus much congested, and covered in some places with patches of lymph; structure of this organ somewhat softer than natural, but no traces of inflammation were observed about the large venous sinuses. Right ovary healthy. Left ovary somewhat larger than natural, and containing a large cyst, apparently that of a corpus luteum, filled with thick creamy pus. Fallopian tubes healthy.

Lower part of vena cava inferior partially filled up by a firm light-coloured coagulum, evidently of some standing. This coagulum was traced into the left common iliac vein, and it was found to confine a quantity of thick creamy pus, mixed with broken up coagula, the cavity of the vein being much contracted. The external and internal iliac veins, as well as the common femoral and its branches, which were examined, were all found on the left side filled with large firm coagula of a very light colour, blocking up their cavities, and partially adherent to their internal walls.

The cavity of the right knee-joint contained a large quantity of foul pus, and an incision was found on the outer side of the articulation; which I had made in fact. All the tissues of the knee, as well as of those in the immediate neighbourhood, were of a dark grey colour. The synovial membrane was extensively destroyed, as well as the cartilages, and in some places the articular lamella of the bone was destroyed, and the cancellous structure laid bare.

Here, then, you have an instance of unhealthy inflammation of the uterus after confinement, the evidence of which still existed in the condition of the uterus and ovary, and probably the interior of the cavity was at first quite sloughy where the placenta separated from it; this occasioned inflammation of the internal iliac veins, which spread as far as the vena cava, and downwards in the groin and thigh through the branches of the external iliac and femoral veins; the secretions of the inflamed vessels, which were morbid and poisonous, passed into the circulation, and affected the whole system, so as to occasion remote parts to inflame and suppurate in a secondary manner, as you have secondary symptoms from the poison of syphilis.

It is said by some pathologists that secondary deposits always arise from phlebitis; sometimes of the small veins only, at other times, as in this woman, of the larger trunks also; I am not myself, however, inclined to believe in the universal existence of phlebitis in such cases, though it is certainly the most common mode in which the poison passes into the circulation. Many years ago, when my colleague, Dr. Lee, was investigating this subject in reference to such cases as our present patients, I gave him the particulars of a case in which a woman died after confinement in the hospital, which took place prematurely while she was under my care for another disease. In this patient, besides the sloughy uterine surface and inflamed structure of that organ, I found an immense number of the absorbents full of pus quite up to the receptaculum chyli, which itself contained some of this secretion. The absorbent system, therefore, I believe is sometimes the channel by which the poison is conveyed, instead of the veins, and you have seen an example of it in a second of our cases, namely, that of William Wynne, æt. 62, who was admitted on the 12th of April.

Just before last Christmas he fractured the first phalanx of his right thumb by a blow from a piece of wood, but not knowing it at the time, he continued to work with it for the rest of the day, the consequence of which was that it inflamed, and an abscess formed, making the fracture a compound one; and it has continued to discharge ever since, some small pieces of bone having come away from time to time, the last piece having escaped about a month ago. He came in with some expectation of losing his thumb, but this is too valuable to be lightly taken away, and there was no reason why it might not be saved in such a case, for it was already becoming firm, and would have been very useful after all the bone came way, though somewhat shortened. As it has happened, indeed, it might have been better for him if I had amputated the thumb, though even then, perhaps, the secondary symptoms might have occurred;

it might have been better also if I had sent him into the country again, which I should have done at once, had he not come from a great distance, so that I thought it better to endeavour to get the dead bone away if it loosened shortly. A small piece did come away on the 15th, and on the 24th the notes say, that the thumb was less painful, and that there was very little discharge.

He complained at this time of pain in the bladder, which extended down the penis, and was particularly severe at the glans: he made water frequently, and had pain in the loins, and in the left testis. I passed a prostatic catheter without much difficulty into the bladder, and found the prostate gland was not much enlarged: the urine drawn off was acid, and contained some pus. Now this affection of the urinary organs we shall have to return to presently; but of course the irritation of such a disease could not fail to impair his general health, and it appeared also that he had been subject to rheumatism.

In the evening of the 2d of May he had a rigor, followed by fever, and the next day the note is this:—Increased pain and redness of the thumb, and of the index finger of the same hand; redness in the course of the absorbents, and pain in the axilla: fever. So far this was no more than might be seen in any common attack of inflamed absorbent vessels, which is often ushered in by a shivering fit, and yet is not attended with much risk; and, in fact, on the 7th, the notes say:—*Right* arm seems a good deal improved; but it is added, there is a good deal of pain in the *left* arm, especially about the elbow. This was not complained of, as it was regarded by himself and the nurse as an attack of the rheumatism to which he was subject, but on seeing him the next day I found that he was in fact almost dying. There was less redness and inflammation of the right arm, but some fluctuation was found on the back of the wrist, which was opened, and some pus evacuated. There was more pain and swelling of the left elbow, and on looking at it, it was evidently too much swelled, and with too much effusion around it, and too painful, to be rheumatic; and it was really a secondary abscess thus suddenly formed. He had also an exceedingly anxious and depressed countenance, and he had been delirious at times in the preceding night; he had very great perspiration, and much fever, and had incontinence of urine and fæces, and he gradually sank till his death at half past two on the following morning, the 9th.

On examination there was found some bloody fluid in both pleuræ, apparently from exudation after death; the lower lobe of the right lung was congested, and rather softened; and the left one was in the same condition at the inferior and back part. There was bloody fluid in the pericardium from exudation after death; heart flabby; left ventricle dilated with thin walls; small specks of atheromatous matter on the aorta; blood quite fluid in all the cavities.

Liver healthy. Kidneys much softened from decomposition, but the left appeared otherwise diseased, as if the cortical structure had been a good deal absorbed. Spleen soft. Bladder contained some turbid urine, and its mucous membrane was slightly rugous.

A small wound communicating with exposed bone was seen over the first phalanx of the right thumb; the greatest portion of the first phalanx was destroyed, and a small portion of it was in the wound: the head of the corresponding metacarpal bone was quite destroyed, and covered with lymph. The right wrist-joint was filled with pus, and the articular surfaces of bone much absorbed. The left elbow-joint contained a small quantity of pus; the head of the radius and corresponding articular surface of the humerus having their cartilages much absorbed: a large quantity of pus was found infiltrated in the substance of the brachialis anticus muscle. Now all this suppuration and the abscess in the wrist were the effect of absorption of pus, and probably through the lymphatic vessels.

Our third case is remarkable for a further effect of the poison, namely, the occurrence of gangrene along with secondary abscesses.

Henry Isaacs, 42 years of age, was admitted April 14th, with a small wound, inflicted by himself, immediately opposite the thyroid cartilage, no air coming out of the wound, and there being no hæmorrhage from it.

He was admitted under Mr. Cutler with a similar injury, and has only been discharged from the hospital about a fortnight. He is a great drunkard, and is at times insane.

Now this was a trivial wound, which was in itself free from danger, and on the 16th the wound was partially united by the first intention. On the 17th he had a moderate attack of fever, without rigor, but with a little sore throat, and the wound was not so healthy, and there was a little inflammation around it, which had subsided again by the 20th. But on this day, the 20th, it is noted, there is some redness and swelling of the extensor side of the right forearm at the upper part, not circumscribed. He is very restless, but has had no rigors; he complains of pain in the right side of the chest, and a little cough; and he had more fever, and in the evening he was restless and delirious. The next day, the 21st, there was in the morning considerable swelling

and a peculiar brawny sensation of the forearm, extending partially up the arm; and by the time I saw him in the middle of the day, the whole extremity, nearly up to the shoulder, was dark-coloured and cold, and in a state of gangrene, and he had a secondary inflammation on the radial side of the left forearm, and the wound of the throat was sloughy, and some air was passing out of it. He was breathing with much difficulty, and shortly, and with pain on both sides of the chest; he was haggard and delirious, and bathed in perspiration, and died at half past eleven the same night, scarcely thirty-six hours from the first evidence of danger.

No marked morbid appearance was observed in the brain or its membranes. The skin of the neck was extensively discoloured, and in the region of the thyroid cartilage was a small wound penetrating through the cartilage immediately between the superior and inferior chordæ vocales. The mucous membrane of the larynx was congested, and the submucous cellular tissue, both of the arytæno-epiglottic and of the glosso-epiglottic ligaments, much thickened by an effusion of serum and lymph: the mucous membrane of the trachea was also congested.

The cavity of the right pleura contained a small quantity of dark-coloured fluid mixed with flakes of lymph and puriform fluid. The lung itself was compressed, but otherwise healthy; left lung congested posteriorly. Heart and large vessels healthy. Coagula for the greater part fibrinous in all the cavities of this organ.

The viscera contained in the cavity of the abdomen presented nothing remarkable with the exception of the kidneys, which were large and coarse in structure.

The right arm was very much swollen, with great discolouration of the skin, and large vesications in various parts. Serum, and a small quantity of lymph, was found in the subcutaneous cellular tissue, which was of a very dark colour. This discolouration extended even to the muscles and cellular tissue under the fascia. A similar appearance was found on the outer side of the left forearm, but it was confined to this part.

You will have observed in this case that the two arms had a secondary abscess in exactly the same situation in each, while there was none elsewhere, which presents you with an instance of what has been called symmetry in disease; that is, two or more parts are altered in structure exactly in the same manner on the opposite sides of the body, just as the two hands or great toes resemble one another naturally. Some attention has been drawn to this subject of late, both in this country and on the continent, but I must confess that although you do see the fact sometimes, yet the exceptions seem very much more numerous than the examples of the supposed rule. You saw it remarkably in this man, but there was no no such circumstance in either of the two other cases.

You saw again in this man that there was an affection of the urinary organs, but in all three it was perceived on examination that there was alteration of structure of the kidneys; and you will find that this is the case very often indeed in those who die of secondary abscesses, evidence of it being sometimes given before death by the presence of albumen or pus in the water. The most extensive cases of gangrene, with secondary abscesses, which I have ever seen, was in a man from whom I removed a cancer of the lip, and who had laboured, without my being aware of it, under diabetes for a long time. The wound healed readily in this man, but there was a little suppuration in the places made by the sutures, and a gland suppurated in consequence of the irritation which they produced; he was attacked with a secondary abscess in the left knee and thigh, and in the right thigh and ankle, and in the muscles of the limbs, and then mortification took place the day before his death in the whole of the right leg and thigh, as suddenly as in our patient Isaacs.

Unquestionably persons broken down by intemperance, with disease of the kidneys and heart, are predisposed to that form of inflammation in which the poisonous secretion is generated. So are those who are lowered by any cause, such as flooding in our first patient, perhaps, or the mania of the last, or anything else which depresses the vital powers. Still, however, they will take place sometimes without any apparent cause of this kind, and may therefore occur at all ages, though adults are certainly most likely to have them under such circumstances as I have described. A very rapid case took place in a boy, only four years and a half old, who was under my care for a burn of the body, and who died as early as the 9th day after the accident, with commencing abscess in one knee and one elbow-joint. Certainly atmospheric changes have much influence on the production of these abscesses, as they have on cellular inflammation, erysipelas, inflammation of the throat and other unhealthy and diffuse inflammations, and therefore you will sometimes see these diseases with deposits of pus in distant parts very prevalent for a time, as they have been this spring, in consequence, perhaps, of the mildness of the winter, which has given a lower type to many disorders; while at another time many months will elapse without your seeing an instance of the disease.

You see, further, that the local condition, on which the secondary abscesses depend, may be very dissimilar; an inflamed uterus, a small recent wound, a little sinus leading to dead bone of small extent, erysipelas, a burn; in fact, anything in which suppuration is going on.

It is sometimes supposed that they only arise from suppurating surfaces communicating with the air, or from inflamed veins, with purulent secretion; but they often take place when there is no wound at all, as from a foul abscess unopened: for example, a girl died under my care who had been struck on one hip, so as to cause an acute abscess of the joint, with suppuration even on the pelvic side also of the innominatum. She suffered most acute pain every where, but especially about the heart; and I found several secondary deposits in the substance of the heart itself, besides suppuration in the pericardium, both pleuræ, and the peritoneum, and an external abscess of the surface of the chest.

There can be no doubt, in my opinion, that these secondary abscesses depend on the introduction of a poison into the blood, which is generated in the morbid secretions of pus and lymph in the inflamed parts, of whatever structure they may be; and as a proof of it you can therefore often see the pus in the veins and absorbent vessels in its course into the general circulation; and you can see the pus in the blood itself, even with the naked eye, in many instances, if you examine the centre of the coagula in the heart and larger veins, and you have evidence of the morbid condition of the blood very frequently while the patient is still alive. A young man, of about 19, was under my care two years ago for a compound fracture of the leg, who died three weeks afterwards of this disease, and a remarkably dark colour of the body demonstrated the morbid condition of the blood, which affected even the urine, giving it a dark colour with cloudy deposit of mucus, and tinging the matters vomited as if some of the colouring of the blood escaped. Let me read you the notes of the post-mortem examination.

Body of a peculiar yellowish-brown colour; pleuræ and lungs healthy in structure, but the latter organs were of a peculiar brown colour, as if steeped in sepia (Indian ink) and water. Pericardium and heart healthy, of the same colour as the lungs; the blood in the cavities partly fluid, resembling weak coffee in appearance, partly coagulated, the coagula being of a dirty yellow colour. All the viscera of the abdomen presented the same peculiar colour before mentioned. Kidneys large, healthy in structure. The liver presented several small abscesses at the inferior part of the left lobe, the pus being of the usual colour and consistence. Spleen three times its natural size; solid, and easily lacerable. The blood in the inferior cava and in the iliac veins of the same colour as in the heart; so was also that in the femoral vein, the branches in the neighbourhood of the fracture presenting nothing remarkable. All the venous blood contained pus globules, visible to the naked eye, as well as in the microscope, while that in the arteries and left side of the heart contained none.

The colour of the skin in this and in similar cases arises from the altered quality of the blood, and it often resembles jaundice, and sometimes no doubt jaundice does actually arise from the inflammation and secondary abscesses in the liver, which, as you perceive in these drawings, may pervade every part of this organ, and make it of immense size; but that the colour does not generally depend on bile is evident from its being present in a marked degree not only when the abscesses are very small, as in the case I have just related, but even when the liver is entirely free from any inflammation whatever, while on the other hand you will in other cases perceive little or no discolouration of the skin, when the liver is universally affected with secondary deposits.

Taking it, then, for granted, that secondary abscesses arise from a peculiar poison being introduced into the system, in what way, let us next inquire, does it exert its fatal influence?

Now they have been called secondary deposits of pus, from the very erroneous opinion that the pus enters the blood at any inflamed part, and is simply deposited again in one or more distant organs or tissues; an explanation founded on the old humoral pathology of metastasis. Were this hypothesis true, they ought to be most numerous and extensive when the quantity of suppuration is greatest; but the danger is often really greatest, when the secreted poisonous matter is very small in quantity, as in the patient with cut throat. A man had the humeral artery tied by one of my colleagues for an aneurism of the ulnar artery, and one of the small venæ comites was tied with it, the secretion from which, (being inflamed,) was scarcely more than a few drops, but its virulence was such that the man died in about three or four days from its effects on the general system; it was fatal, in fact, before there was any time for local effects to be produced by it; just as the poison of scarlet fever is sometimes fatal before there is any eruption. This appears to me then to be much too mechanical an hypothesis to be true.

Another opinion has been given by Cruveilhier, and other modern pathologists, founded on the experiment of introducing

mercury into the circulation, the effect of which has been found to be that the globules of metal have been discovered, each of them forming the nucleus of a small abscess, round the place where they have been retarded in their course. In the same manner it has been supposed that the pus globules, which are larger than those of the blood, may be obstructed in the capillaries, and occasion surrounding inflammation; in the lungs of course generally, if the pus is in the general circulation, and in the liver if it is in the portal veins. Now here, again, we are met by the fact that the most numerous and extensive secondary abscesses often take place where the primary suppuration is very small, looking as if they depended on the intensity of the poison rather than its quantity; one would expect that a globule or two of pus blocking up a capillary would excite a suppurative inflammation around them only; and not occasion universal gangrene of an extremity in a few hours, as in the two cases I have narrated. It was long known that injuries of the head were sometimes followed by abscesses of the liver; but according to the theory in question abscesses in that organ should rather occur from suppuration in the parts from which the portal veins arise, while those caused by injuries of the head should generally take place in the lungs, as the pus would have to circulate there long before it could reach the liver.

When my immediate predecessor, Mr. Rose, described secondary abscesses as often being produced in the lungs by injuries of the head or compound fractures, or other injuries, the surgeons in London were inclined to be incredulous on the point, though long familiar to us all in this place, and they called it the St. George's disease; but it gradually came to be acknowledged that secondary abscesses may take place in every organ and tissue of the body, and not in the liver or in the lungs only.

I do not wish to deny that secondary abscesses may sometimes arise from globules of pus retarded in their passage through some of the capillary vessels, but I cannot think that this mechanical explanation will apply universally or even generally; it is much more probable, I think, that the manner in which the poisonous secretions act is by causing a change in the nature of the blood, immediately indicated by rigors or fever, or other evidence of its influence; it alters and works up this fluid, and gives it a tendency to induce inflammation in various parts.

If you take a drop, I may say half a drop, of pus on a lancet out of a small-pox pustule, you know that the consequence may be thousands of distant inflammations, with suppuration; secondary abscesses, in fact, succeeding in a few days to the introduction of the poison into the blood;—now no one would here attribute the inflammation, if there was only one pustule, to this half drop of pus being deposited again, nor to its being retarded in a capillary vessel; still less could such numerous little abscesses be accounted for on either supposition.

Again, take a drop of pus from a chancre, and inoculate any person with it, and then heal the sore you have produced; yet you know that after a much longer period, that is four or six weeks, the blood will have become so poisoned and altered that inflammation may ensue in an immense number of different parts, and that it will even affect the offspring of a person so circumstanced; but you do not resort to the hypotheses before mentioned to account for these effects.

Another animal poison, that of a venomous serpent, gives you an example of the contamination in a very few minutes of the whole blood of the system, by a very minute quantity of liquid; or if you arrest its entrance beyond the bitten limb, so as to prevent its being fatal, you will see the arm become quickly dark coloured from the alteration of the blood, and then gangrenous, as in our cut-throat patient, or if it does not entirely die, there may be extensive suppuration and cellular inflammation, and sloughing.

In the same manner as in these several cases I would account for the effects of the introduction of the animal poison generated in unhealthy local inflammations. Instead, therefore, of the lungs or the liver being almost always the seat of secondary abscesses, according to the respective locality of the primary suppuration, you will witness a curious kind of fashion with regard to them. It is true that they very often take place in the lungs, as you might expect, since the whole of the blood has to circulate through this organ, yet sometimes you will see none whatever in the lungs for a considerable time, while there are many in the liver;—our three patients have had no abscesses, you observe, in either lungs or liver, but they have had them in the cellular tissue and muscles and joints, and so have other patients lately: in another epidemic you will see a great number of cases of effusion into the serous membranes, and not a single instance of suppuration in the extremities or external parts of the body.

The secretions being in such cases as we are considering of a poisonous nature, you would naturally inquire whether it is not contagious to another person, as well as capable of contaminating the blood of the patient himself; and so in fact it is, provided, as with other poisons, the recipient be in a fit state to be acted on by it. It has very long been known that puerperal

fever, such as our first patient had, may be conveyed by the hands from one woman to another; and a conscientious accoucheur, who has a patient with this disease, will not attend others till he thinks the contagion is destroyed. So the matter of an ordinary foul abscess will give puerperal fever, if it is carried; and the poisonous and fatal influence of the secretions of serous membranes has been too often experienced by members of our profession; many a nurse and washerwoman, as well as the medical attendants of patients, have proved the contagious quality of the secretions of wounds and abscesses, sometimes by the production of a fatal effect independent of local inflammation, sometimes by local effects only, erysipelas, or cellular inflammation, or inflamed lymphatics; sometimes by the further evidence of secondary abscesses. You cannot, then, be too cautious when you are concerned with such foul suppurations, whatever their origin, not to propagate the disease; I am not at all sure that the contagion is not sometimes conveyed, and the disease propagated, by sponges used indiscriminately in our wards: it is true that the nurses have orders on the subject, and ought not to use them with healthy wounds after they have been employed on unhealthy ones, but we well know how careless all are apt to become. I do not mean, indeed, that contagion is likely to be the common cause of so many suffering at certain times from foul suppuration and secondary abscesses; the cases are obviously too scattered in different wards, not to have a general cause in operation, and this obviously an atmospheric cause, making, as I have already said, all the forms of low and diffuse inflammations epidemic, both in hospitals and in private, at certain intervals of time.

Infection, also, has been sometimes believed to exist with regard to these cases, and accoucheurs have burnt their clothes, lest they should convey the poison of puerperal fever. I do not know, however, that there is any proof that the unhealthy pus, which produces secondary abscesses, does actually contaminate the atmosphere, though doubtless (as with typhus fever), the accumulation of the effluvia by many persons being collected together, and the apartment not being ventilated, might easily generate an unhealthy atmosphere, which would alter the system of those exposed to it, and make the inflammation of their wounds and injuries unhealthy and dangerous, which in purer air would not be so.

You observe I speak of the poisonous effects of the purulent secretions of *unhealthy* inflammation, and it is only in such that pus is poisonous; it is the mixture especially of pus and lymph, when the inflammation is unhealthy, which causes the absorption of matter to be so dangerous. Healthy pus produces no such effects, and large abscesses may be absorbed without mischief, if they are of this character. It is denied, indeed, sometimes, that true pus is ever absorbed; and it has been asserted that the fluid supposed to be purulent, has been, in reality, of a serous quality; but I have myself no doubt of the fact, from the test of a grooved needle.

You have seen all these three cases terminate fatally; and undoubtedly secondary abscesses, and the state of blood which occasions their formation, are exceedingly dangerous, but yet I have known a good many recover from this condition; you are not, therefore, to give up the cases in despair, as so many appear to do, but you must endeavour to relieve the system from the poison. I have no doubt, indeed, that very many recover after the purulent secretions have entered the circulation, but not in sufficient quantity or intensity to occasion secondary inflammation. I wish to prove to you, however, that even after local inflammation has been established, and abscesses have formed, patients will sometimes get well. A young man came under my care who had his foot and ankle crushed by a railway carriage upon the rail; the ankle-joint, however, not being opened, though some smaller ones were, and no bone being broken, I endeavoured to save the leg, which was eventually managed, although so much skin was destroyed by sloughing that I hardly thought it possible the cicatrix could have remained sound, as it has done, for above two years. This patient had very great fever, with foul suppuration, and on the seventh day a secondary abscess formed, of not less than seven inches length, along one forearm, in the same situation as in Isaacs, which I opened, and which quickly healed.

A lad came into the hospital with a punctured wound of the knee-joint, of which he was nearly dying, from the immense suppuration in the leg and thigh which took place, and which was attended with much hæmorrhage; he got well, however, in time, with anchylosis of the joint. This lad, besides a large secondary abscess of the back, and a small one of one thumb, had also one of considerable size within the pelvis, in front of the bladder, which I opened by an incision through the linea alba.

Nor is it only with secondary abscesses in cellular tissue, but even in such cases as have inflammation in the viscera, recovery may take place. A gentleman whose thigh I amputated for immense abscesses from disease of the knee-joint, had the usual rigors and perspiration, and fever, which attend the absorption of pus, with apparent inflammation of the liver; but he recovered,

as I have seen several others do when this organ has been affected short of actual suppuration; and the same may be said of secondary inflammation of the lungs.

A man was under my care, two years ago, with very large suppuration among the muscles of the thigh, from its having been run over; and in him the same congestion of the lungs took place which you have seen in all our present cases, especially in the left, which scarcely admitted any air whatever for a time; it was relieved, however, by expectoration of blood and mucus to some extent, and he left the hospital quite recovered. I operated upon a lady for strangulated umbilical hernia, and having reduced the intestine I left the omentum in the wound, which afterwards sloughed away with some of the skin, and of course with foul suppuration. This lady was very near dying, but was saved by a large quantity of foul putrid pus being suddenly discharged from the left lung, by which she was at the time exceedingly oppressed, and for several days nearly a pint of pus and mucus was brought up; a second time the same thing took place, either from the blocking up of this one, or the bursting of a second abscess of the same lung. Dr. Seymour attended this patient with me, and she was also seen by Sir Benjamin Brodie, who assisted me in the operation; and no doubt was entertained by either of us that she had had one or more secondary abscesses of the lung in consequence of the sloughing and unhealthy suppuration of the omentum.

And what is the treatment by which you may hope to carry your patients sometimes through this dangerous condition of system? I do not, in fact, believe that there is any peculiar line of practice. I have tried some specific remedies, with the view of introducing them into the blood, such as various salts, among them the chlorate of potash, recommended for gangrene of the mouth, and I have seen some patients get well who have used it; I have tried, also, turpentine, which readily acts on the blood, and has done good in some membranous inflammations, but I do not know that they have done any peculiar good. I think you will certainly derive benefit sometimes from the use of small quantities of calomel and opium, sometimes two or three times a day, sometimes in a larger dose occasionally at bedtime; this remedy inducing, as you know, a remarkable influence on the capillaries in inflammation, and probably affecting also the quality of the blood. When there are rigors, saline remedies with Dover's powder may be given; if there is excitement, nitre and antimony: where there is copious perspiration these medicines would obviously be improper; but ammonia, wine, porter, or spirit may be required, proportioned to the condition of your patient. The common principles of treatment in irritative or low fever will guide you in adapting your remedies to the several cases, rather than any specific practice.

Locally you will occasionally do good by a few leeches or cupping, as over the liver or a joint, but they are of little power, and very little depletion can ever be employed without doing harm. Mustard poultices and blisters have great efficacy when the liver or lungs are affected with secondary inflammation, and sometimes, though not often, when the joints are inflamed. And of course you must open the abscesses when you discover them.

### PNEUMONIA IN THE OLD TREATED WITHOUT BLOODLETTING.

Dr. V. Röderer (Oester. Med. Wochen. Jan. 1843) remarks on the high mortality (one-half to two-thirds) attending the cases of pneumonia occurring in the aged, when treated in the usual way by blood-letting, even when employed with activity from the first onset of the disease. Dr. R. has, therefore, been led to abandon blood-letting (to which he thinks the mortality in great measure attributable), and to employ tartar emetic in conjunction with opium. In the first and second stages of primitive simple pneumonia in the old, he gives from four to six grains of tartar emetic, with an equal quantity of opium, in the course of twenty-four hours, either in the form of pill or in solution. He was seldom obliged to continue this plan longer than four or five days. He abstained from all bleeding and blisters, confining himself to the above treatment, except in some rare cases, where aperient enemata were required. Of forty-two patients thus treated he lost only thirteen. These were cases where the diagnosis was made with all accuracy, and the progress carefully marked. A lengthy memoir, by Mr. E. M. Martin (Révue Méd. Jan. 1844), founded on sixty-seven cases occurring during the winter of 1843 in the wards of M. Prus, at Salpêtrière, is intended to point out the chief differences between pneumonia in the adult and the aged. The apex of the lung was much more frequently the seat of the inflammation than in the adult. It was either very general, or of very limited extent. Abscess was much more frequent, occurring in three cases out of sixty-seven (in five of seventy cases detailed by Mercier, at Bicêtre, abscesses were found); emphysema very frequently co-exists. The mode of invasion was sometimes gradual, and sometimes sudden; but all the symptoms which attracted the patient's attention were referrible to the stomach, *e. g.* bilious vomiting.—*Dr. Bennett's Report on the Progress of Pathology, &c.: British and Foreign Medical Review.*

## Original Communications.

### CASES OF MIDWIFERY IN WHICH GALVANISM WAS APPLIED; WITH REMARKS.

By Thomas Dorrington, Esq.,
Surgeon to the Manchester and Salford Lying-In Hospital.

*Read before the Manchester Medical Society, February* 4, 1846.*

The following cases are submitted to the Society, with the view of calling attention to the power of galvanism in certain obstetrical emergencies. We are indebted to my friend and colleague, Dr. Radford, for the introduction of this agency into the practice of midwifery, and from what I have witnessed, I believe that obstetricians will ultimately acknowledge, that it is one of the most valuable additions that has been made to our obstetrical armamentarium in modern times. It is to be regretted, that since the publication of Dr. Radford's lecture on this subject, in December, 1844, the attention of the profession has fixed itself upon the treatment of certain cases of placenta prævia, by separating the placenta before delivery, rather than on the treatment of severe cases of uterine hæmorrhage generally by galvanism, which was the proper subject of the lecture. It must not be supposed from this remark that I do not fully appreciate the great value and importance of that treatment, which, indeed, was first adopted on scientific grounds, and as a matter of election, by my late father-in-law, Mr. Kinder Wood; but since the publication of Dr. Simpson's papers on the subject, and since the controversy between that gentleman and Dr. Radford, the method of treatment in question seems to me to have been somewhat abused, its object misunderstood, and the lives of some children to have been sacrificed by its inconsiderate adoption. It does not seem to have occurred to some of those surgeons who have practised it, that nothing but the most extreme danger of the mother can justify a practice which almost necessarily involves the death of the child. The majority of cases of placenta prævia, if seen sufficiently early, are manageable enough on the old methods, viz., rupturing the membranes, or artificial delivery by turning, and till one or other of these means can be adopted, the steady use of the vaginal plug. In a fair proportion of these cases the child is born alive, and I believe that few practical men will concur with Dr. Simpson's views as to the mortality to the mothers, which he seems to me materially to overrate. The separation of the placenta prævia, before delivery, is justifiable in two cases only; the first is, where we have satisfactory evidence of the death of the child, or what is equivalent, where organic alterations in the hard and soft parts have so lessened the diameters of the passages as to compel us to adopt craniotomy to terminate the labour; and the second is where the woman is so exhausted as to be unable to bear the shock of delivery, the hæmorrhage still continuing, or if not continuing, most likely to recur. It is obvious from this that, although most valuable in its proper place, the treatment alluded to can be very rarely required; whereas, the application of galvanism, which has been lost sight of in the discussion, is servicable in a number of cases which the actively-engaged obstetrician is frequently meeting with.

I may premise that the instrument used by me in the following cases, was the electro-magnetic apparatus of Messrs. Abraham and Dancer, of this town, with Dr. Radford's additional vaginal conductor.

*Internal Hæmorrhage during Labour.*

On September 27th, 1844, I was sent for to Mrs. Royle, 21, Major Street, about six hours after the commencement of labour, and some hours after the rupture of the membranes, by Mrs. Lee, midwife. My friend, Mr. Bent, had arrived about five minutes before me. We found the woman suffering from the effects of hæmorrhage, in an extreme degree, though a pint of blood only had escaped externally. The labour pains had gone off; the os uteri was very rigid, and dilated to the size of half-a-crown only, and the uterus soft and without tone, when examined through the abdominal parietes. We

* Communicated by the Author.

gave her about half a drachm of tincture of opium, and put on a bandage. A thin serous discharge, tinged with blood, however, continued to drain from the uterus, indicating internal hæmorrhage, and we therefore administered half a drachm of secale cornutum, infused in water, in two doses, a little tea being added to the first, and a little brandy to the second. Before, however, this was done, we had sent for Dr. Radford, desiring him to bring his galvanic apparatus. In about twenty minutes or half an hour after the ergot had been given, it began to act, and intervallic uterine contraction set in, the head bearing down on the os uteri, and the thin serous discharge soon after ceasing. In the intervals between the pains the uterus still remained soft and doughy.

Dr. Radford now arrived, and when he made a vaginal examination, raised the head from the os uteri, so as to allow of the escape of a considerable quantity of the liquor amnii, which had been retained above it; the latter portions of this fluid were deeply tinged with blood. He agreed with Mr. Bent and myself in the opinion that to deliver in such a case would be death, even if the os uteri had been in such a state as to have permitted the proceeding. It was therefore determined to try Dr. Radford's new plan of galvanism, applied to the uterus, to induce tonic contraction of that organ, so as to keep the flooding in check, and to give time to get support into the woman, a plan which he had developed to me in several private conversations some time previously. We applied one conductor of the electro-magnetic apparatus to the os uteri, and the other to the abdominal parietes over the fundus uteri. The woman immediately began to complain that we were cutting her, and the uterine action came on at once. After having used the remedy a few minutes, we desisted, and had great pleasure in finding that the tonic contraction of the uterus had been called into play. We again applied the galvanic shocks and currents, and the uterus immediately responded to the applications, strong contraction at once taking place, and the woman complaining of cutting pain. In about twenty minutes after its first application we finally ceased to use it, so firm a state of tonic contraction having been induced that we considered it safe to leave the woman, with orders that beef-tea, broth, and eggs beaten up with milk, should be given her at intervals, and a teaspoonful of brandy in a little water occasionally. An abdominal bandage was kept firmly applied. When we made a vaginal examination, we found the head bearing down on the os uteri, with a much greater degree of pressure than had existed before the galvanism was applied, and we left with a firm conviction that the galvanic treatment had been of most essential service in this, the first case in which Dr. Radford's new plan had been tried in the human subject.

There was no further flooding, and the woman went on very well, taking a moderate amount of support, till half-past ten P. M., six hours and a half after the application of the galvanism, when labour came on. The action of the uterus was not very strong, but about two A. M. on the following morning the labour terminated. After the head was two-thirds expelled, the action of the uterus entirely ceased, the abdominal muscles alone contracting, so that the latter part of the labour was completed by Mr. Bent carefully extracting the child, which was still-born, whilst I managed the proper compression of the abdomen. The placenta was easily withdrawn from the uterus immediately after the birth of the child, and a coagulum, about a pound in weight, accompanied it. I then tightened the bandage, and put a compress over the uterus, which caused the expulsion of another coagulum, about two pounds in weight. During the latter part of the labour the woman was so exhausted from her own efforts at straining, when the uterine action ceased, that we gave her about two tablespoonfuls of brandy in a little water. After the labour was over we gave a drachm of tincture of opium, and left her with orders that she should be kept perfectly quiet, with the head low, and light nourishing diet to be given at short intervals. She slept well during the night.

I did not take notes of the subsequent part of the case, as Mr. Bent promised to do so. On applying to him for them, I received the following note, &c.:—

"My dear Sir,—I am sorry to say

that I have mislaid the report of the treatment, but have referred to the day-book, and have, as far as my memory serves, drawn up a short statement. Perhaps what I have omitted you can recollect. The report of the inspection is incomplete, in consequence of a refusal to allow us to proceed. If anything further should be required, if possible I shall be glad to furnish it.

Believe me, yours very truly,

JAS. BENT.

"Sept. 28th, 1844.—She was going on well; no medicines given.

"September 29th.—She was troubled with cough, for which she was ordered a simple linctus containing Oxymel Scillæ, and Syrup. Papaveris. Half an ounce of castor oil was given. At night she complained of abdominal pain, with great tenderness; pulse quick and wiry; slight tympanitis; bowels open. She was ordered hot turpentine liniment to the abdomen, with poultices, and three grains of calomel, with a quarter of a grain of opium every four hours.

"30th.—Pain and tympanitis much increased. Continue pills, and to have a turpentine enema. In the evening symptoms much the same. Rep. Pilulæ et Enema.

"October 1st.—No improvement; bowels acted upon by the enema, but no diminution of the tympanitis or pain; no mercurial affection of the gums; pulse quick and feeble. Ordered to rub inside of the thighs with a drachm of Ung. Hydrarg. Fortis, every two hours; a pill containing three grains of calomel and one grain of opium to be taken every four hours, with one ounce of saline mixture every three hours." She sank rapidly, and died at three, P. M.

I have nothing to add to Mr. Bent's notes, except to state generally, that the case appeared to us at the time to be a low obscure peritoneal affection, which the subsequent notes of the inspection prove to have been an erroneous view.

"On inspecting the body the third day after death, found its whole external surface quite blanched, and the abdomen immensely tympanitic. On making an incision into the abdomen, and displacing the bowels, was surprised to find not the slightest quantity of serum, lymph, nor even injection of the peritonæum. The uterus was rather larger than usual, but well contracted, and by no means softened; its peritoneal covering free from inflammation; the internal one was covered with a dark-coloured coating of what seemed lochial discharge. On making a section in that part of the uterus to which the placenta had been attached, upon tracing the veins there was no indication of thickening or inflammation. The friends arriving for the funeral I was not allowed to proceed."

Though the result of this case was not fortunate, it is, on the whole, one of the most satisfactory cases that I have seen; for certainly, when Mr. Bent and myself first saw it, we considered it morally impossible that the woman could live to be delivered. When we couple with her exhausted state the undilated and undilatable condition of the os uteri, and the fact that the hæmorrhage was in all probability continuing, we must certainly view it as one of the most formidable cases that the surgeon could possibly have to treat. The fact of the ergot having been administered before the galvanism was used, may perhaps be considered by some to vitiate the case as an illustration of the galvanic treatment, but so far from this being the fact, it rather enabled us to compare the relative effects produced by the two agents, ergot and galvanism, and the difference was indeed most marked. The uterine action brought on by the former did not occur till an interval of from twenty minutes to half an hour after the administration of the drug; whereas that brought on by the galvanism was instantaneous. The contractions from ergot were not nearly so strong as those from the galvanism, and the uterus in the interval between the pains, before the application of the galvanic currents, remained soft and doughy, to which our attention was particularly directed by Dr. Radford at the time, as showing that the ergot had failed to establish that state of permanent tone in the organ which was our only security against further hæmorrhage. The galvanism, moreover, acted as a general stimulant, which was very useful in the depressed state of the patient; and in this respect its superiority over the ergot, which by

some good obstetricians is considered rather depressing, was very decided.

The result of the case, and the exsanguineous condition of the patient, as shown by the *post-mortem* examination, led me to regret that the operation of transfusion was not adopted either before or after delivery. The combination of transfusion with the galvanic treatment is peculiarly applicable to these cases, as Dr. Radford has remarked, for the tonic contraction induced in the uterus by the latter, by preventing further effusion from the exposed uterine sinuses, would give the fresh blood poured into the system the opportunity of being expended in keeping up the vital powers. Indeed, transfusion can be of little service until you have co-existent uterine contraction, since the blood must necessarily run the risk of being lost again as fast as it is received, if the uterus is flaccid.

*Accidental Hæmorrhage before Labour.*

February 17th, 1845.—Sarah Dawson, 95, Silver-Street, Hulme, aged 29, has been pregnant eight times, and has had two miscarriages. Her last pregnancy terminated in miscarriage. She is at the full term of pregnancy, and for three months has had a great deal of pain and uneasiness in the left iliac fossa; she has felt this to an unusual degree to-day. About five weeks ago, after lifting a heavy pan, she had a slight flooding; in a fortnight after she suffered in the same way; in a week after that she had another slight flooding, and was similarly affected in about ten days after. There was no obvious cause of any of these attacks of flooding except the first. To-day she walked about a mile and a half, and when she came back she had great pain in the back, and felt remarkably tired and sleepy. About midnight, whilst stooping down, she had a violent and sudden hæmorrhage, to the amount of two pints or more, as she thinks; she fainted and vomited. Soon after, re-action taking place, she began to feel very warm, and noticed that the warmer she became the more feeble she felt. Mrs. Foxley, midwife to the Lying-in Hospital, of which institution the woman was a home-patient, saw her in about forty minutes after she had the flooding, and got her up stairs to bed. She found her faint, blanched, and nearly pulseless; indeed she thought she was dying. Receiving a summons from Mrs. Foxley, I arrived at twenty minutes to 2 A.M., but she was then somewhat better, she was still very faint, and inclined to vomit; the pulse was feeble and rather slow; there was no hæmorhage nor labour pain, and the os uteri was dilated to the size of a half-crown, but rather rigid; there was some degree of anterior obliquity of the uterus. I could feel the head covered by the membranes, and could not detect any portion of the placenta in the neighbourhood of the os tincæ; I ruptured the membranes, and gave a drachm of tincture of opium in a little water. In a short time the uterus felt firmer than before, when examined through the abdominal parietes. At a quarter past 2 A.M. she began to vomit, and the action of vomiting caused the liquor amnii to come away in considerable quantity. The pain and tenderness in the left iliac fossa were much less severe after the uterus was thus in some degree emptied. At half-past 2 she thought she felt the child move.

As there seemed no probability of labour occurring, and as it was not impossible that insidious internal hæmorrhage might take place, I thought I would apply galvanism to induce a firm tonic state of the uterus, till its parturient action should come on. With the assistance of Mr. Runcorn, house-apothecary to the Lying-in Hospital, I applied the galvanic shocks and currents both in the longitudinal and transverse axes of the uterus. The effect on the uterine fibre was most marked, the firmest tonic contraction occurred the moment the organ was stimulated, and when the conductors were finally removed, a good tonic state of the organ existed,—a fact which was proved both by its hardness to the touch when examined through the abdominal walls, and by the head being in firm apposition with the internal surface of the os uteri. The constitutional effect upon the woman was very serviceable, for it acted as a general stimulus, rousing her up, and making her, to use her own words, "feel better than she had done for months." The pulse was 98, and stronger, and her face much less pallid. I ordered her to have an abdominal bandage put on, and to lie on

her back to counteract the anterior obliquity of the uterus. About 12 P.M., nineteen hours after the galvanism was applied, labour commenced without any further hæmorrhage having occurred, and terminated in about two hours and a half, in the birth of a male child, which was living. The placenta was expelled, along with four or five coagula, as large as the closed hand, in a quarter of an hour afterwards. The woman recovered well.

In this case, although it is probable that the rupture of the membranes alone might have prevented the continuance of the hæmorrhage, it was very satisfactory to me to be able to put the uterus into such a state as to preclude the probability of its recurrence when re-action took place; a circumstance which not unfrequently happens, and which, had it occurred in this case, where the os uteri was rigid, might have proved extremely dangerous to the patient, and embarrassing to me. Had the ergot of rye been used, the probability is, that the child would have been born dead, and the labour forced on before the os uteri was prepared to dilate, which might have caused other evils; and on the other hand, had nothing been done after the rupture of the membranes, my mind would have been for many hours in a state of anxiety and dread lest further mischief might be insidiously occurring, and the beneficial effect of the galvanism on the system would have been lost.

[To be continued.]

### ADULTERATION OF IODINE.

M. Righini lately received from a drug-dealer of Milan, a specimen of iodine quite hard and compact, and resembling that substance only in its external properties of odour and colour. Portions of it became deliquescent on exposure to air. It was quite soluble in alcohol, and when digested with water and iron filings, it became entirely dissolved, without leaving any residue. Its alcoholic solution gave a white precipitate with oxalate of ammonia; and when submitted to distillation, it yielded iodine, and left a residue possessing all the characters of chloride of calcium. The quantity of this adulteration amounted, according to M. Righini's experiments, to 25 per cent.—*Journal de Pharmacie*, Avril 1846.

*** Iodine should be entirely volatile; hence an adulteration of this kind is easily detected.

### ADDITIONAL REMARKS ON SILICEOUS GRAVEL, &c.

By R. Venables, M.D.

In the Medical Gazette for April 3d, 1846, I gave an account of a small portion of gravel, containing silex, which had been extracted from the urethra, and in which the general history and principal circumstances of the case were detailed. The account, however, was so far imperfect, that from the minuteness of the specimen, little or nothing could be determined relative to the chemical composition of the calculus itself. Lime, upon that occasion, appeared to be the predominant principle; but in what form had not been particularly determined. The object, therefore, of these supplementary remarks is to supply this deficiency, and render the history more complete; the gentleman having very liberally and kindly placed the whole mass at my disposal.

The entire calculus weighed exactly four grains and a quarter; it had a tuberculated appearance, and a colour exactly like the mulberry variety. Its tuberculated surface somewhat convex, the opposite one slightly concave, as if a laminated fragment detached from a small nucleus. There were observed, with a lens, two or three glistening or sparkling points, caused possibly by imbedded crystals, probably octohedra of oxalate of lime, but this could not be satisfactorily determined. There were likewise observed one or two points of a more opaque appearance, resembling quartz or dark flint. Two or three of these were observed interspersed through the substance of the fractures. A small fragment, heated on platinum foil over the spirit lamp, swelled up, the intumescence becoming nearly black, but ultimately leaving behind a whitish ash, which had no effect upon moistened turmeric or reddened litmus paper. The ash readily dissolved with effervescence, in diluted hydrochloric, and also in acetic acid. These solutions precipitated on the addition of oxalate of ammonia. A portion of the ash folded up in the foil, and treated by the blow-pipe, left a residue, which gave to distilled water digested on it an alkaline reaction. The above proper-

ties are evidence of oxalic acid, which when combined with lime on exposure to a moderate heat is converted into the carbonic; this latter upon the application of a more intense heat being driven off, leaving the lime in its caustic state.

A fragment weighing two grains and one eighth was crushed in a steel mortar, and digested for a short time with a diluted solution of caustic potass. This solution treated with excess of hydrochloric acid afforded a trace of uric acid, easily recognised by the form of the precipitated crystals when observed under the microscope. The residue partially dissolved in hydrochloric acid, leaving behind a sensibly visible remnant. The solution in hydrochloric acid precipitated by ammonia a light and flocculent precipitate, (insoluble in concentrated acetic acid), but which on being boiled in a tube of hard glass became heavy, and assumed a granular appearance. A portion thrown into carbonate of soda infusion in a silver capsule* was decomposed, oxalate of soda and carbonate of lime resulting; the oxalic acid in the soda salt being verified by the appropriate tests. In another instance the acid was disengaged, and reduced by strong sulphuric acid, equal volumes of carbonic acid and of carbonic oxide being obtained. These properties leave no doubt that the principal bulk of the fragment consisted of oxalate of lime.

The residue, after the action of hydrochloric acid, was collected, dried, and exposed to the full action of the blow pipe flame. This merely reduced its bulk to a very slight extent, leaving a dark-coloured ash behind. The heat decided that it did not wholly consist of organic matter, some forms of which resist the action of hydrochloric acid. The ash was heated with nitric acid, with which it was boiled, and then washed and dried. This mass presented no very definite form, nor any distinctive optical character. It was next treated with a mixture of soda and potass, in a small platinum capsule, by means of the blow-pipe, when it melted, with slight effervescence, into an enamel-like mass, which readily dissolved in warm distilled water. From this solution hydrochloric acid threw down a gelatinous looking precipitate, of a whitish colour, and which, washed and dried, proved to be siliceous matter. The quantity thus obtained was very scanty, and afforded but a few very minute granules,* presenting the microscopical appearance of very minutely divided silex as obtained from flint glass.

*Observations.* — I am very much gratified in being able to thus submit more perfectly the composition of this calculous fragment, presenting the rare anomaly of siliceous intermixture. In the paper published some little time since in this journal, I stated that the silex in Dr. Yelloly's calculus formed the nucleus. On referring, however, to Dr. Yelloly's paper, I find this statement incorrect, as it is stated that the granules "were imbedded in and diffused through the oxalate of lime." This appears to be the state in which the silex existed in the present case, (only not quite so large or distinct as to be mechanically separable from the surrounding mass of oxalate of lime), and so far may be looked upon as corroborative of the circumstances observed by Dr. Yelloly.

In the paper before referred to, as published in this journal, I inferred that the acid in the earthy salt was the phosphoric, which evidently is an error, and arising from not having critically investigated the nature of the acid, which proved to be the oxalic. So far as I am acquainted there are now but five recorded instances of silex detected in urinary concretions; and in four out of the five the silex was found intermixed with the oxalate of lime. Out of six hundred calculi analyzed by Fourcroy and Vauquelin, in two consisting of oxalate of lime silex was found blended with this earthy salt. Dr. Yelloly's instance forms the third, and the subject of the present paper presents the fourth instance of analogous character. In Wurzer's case the principal ingredients were lithic acid and phosphate of lime. The calculus itself weighed 870 grains, and the silex was in the ratio of one

* This is a much more ready process than boiling the oxalate of lime with a solution of the carbonated alkali, which is far more tedious, and requires long-continued ebullition to effect the interchange. With ordinary care there is no danger of destroying the oxalic acid by overheating.

* Although the solution was evaporated and heated in a platinum capsule, and the alkaline chlorides removed by solution, still the quantity of siliceous matter obtained was very small, but yet quite sufficient for its identification.

per cent.; or forming, by weight, 8·7 grains of the mass.

In the few instances recorded, the silex has presented with what may be termed the earthy diathesis. May not its presence, therefore, be referred to some articles of diet, of which silex, in some favourable form for solution, may have been a constituent? Liebig states, that insoluble principles, forming part of our diet, and incapable of assimilation, or not required in the economy, are, for the most part, evacuated with the fæces. This may be readily observed in dogs after eating bones, the animal principles of which are digested and assimilated, while the phosphate of lime passes off with the fæces, in which, under certain circumstances, I have found a large proportion of lime, in the state principally of phosphate, with some intermixture of carbonate.

Certain of the soluble principles, the same authority states, pass out of the system with the urine. Hence, if silex, in a state favourable to solution, or even to soluble combination, be present and form a part of the articles used as food, we might thus expect to find it in the urine; and the possibility of such circumstances occurring but very seldom would probably explain the occasiona occurrence, but still very great rarity of siliceous deposits in urinary concretions. We, possibly, also may thus explain the apparent association of siliceous matter and earthy concretions; those articles of which silex forms an obvious integrant generally contain a rather large proportion of lime.

What the peculiarity of circumstances are which render silex accessible to solution, it is difficult even to conjecture. Quartz digested for a long time in solution of caustic potass is dissolved at least in small proportion; for the decanted liquor precipitates silex on the addition of an acid, and the precipitate, in its hydrated state, readily dissolves in the caustic, or even the carbonated alkalies with basic reaction. Silex, also, when held in solution by the alkalies, precipitates slowly in minute brilliant crystals, when the liquor has been allowed to stand after being fully saturated with carbonic acid gas; and perhaps some similar re-action may give rise to its precipitation, when present, from the urine.

That soluble principles, either superfluous or incompatible with the purposes of the economy, pass off by the urine in preference, is not only attested, in some cases at least, by experiment, but to be inferred by analogy. We know that volatile principles make their way to the lungs and skin, and are exhaled with the breath, and the insensible transpiration. I have known persons in the poorer classes of society, and the poverty of whose circumstances obliged them to consume large proportions of strong-smelling vegetables, as onions, garlic, &c., in whom the skin exhaled the odorous principles of such articles so powerfully as to be highly offensive, and even capable, in a short time, of tainting the air of the room. It would perhaps be interesting, as likely to throw some light upon this subject, to examine the urine of animals fed upon matters comparatively abounding in silex, with a view to the detection of this principle. The subject, even if unimportant in a pathological, is highly interesting at least in a philosophical sense.

5, St. Vincent Place, City Road,
May 7, 1846.

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### STATE OF THE URINE IN PREGNANCY.

Women's urine that is cleare and shyning in the urinall, like silver, if she cast (fast?) oft, and if she have no talent to meate, it betokeneth that she is with child.—*The Englishman's Treasure, by Mr. Thomas Vicary, Serjeant Chirurgeon to Henry VIII.*

*** The above passage is interesting as illustrative of the principle that in the advance of time, many important facts that were familiar to the ancient physicians have been gradually disregarded, and at length become wholly forgotten, until some re-discoverer has either drawn them from obscurity in their pristine form, or has been led to attach to them a more true and definite character than they received from their first expositors. We apprehend that the discoverers of keistein deemed themselves to be the first who were able to distinguish the existence of pregnancy by observing the condition of the urine; but it is very evident that our predecessors of the sixteenth century possessed knowledge which enabled them to arrive at a similar conclusion, though by less scientific, and probably less demonstrative, means.

## THE SCOTCH EPIDEMIC FEVER OF 1843-4.

By John Richard Wardell, M.D. Ed.
Late President of the Royal Physical and Hunterian Medical Societies, Edinburgh; &c. &c.

[Continued from p. 776.]

### No. V.—*continued.*

II.—*The rose-coloured measly eruption of genuine typhus was invariably absent. Petechiæ were observed of a dark, purplish, livid hue, never elevated, but clearly circumscribed.*

Petechiæ have been alluded to, and sometimes importantly, by most writers upon fever, and perhaps the older authors laid more stress upon this pathognomonic appearance than more recent authorities, because they were generally the accompaniments of very grave types of the disease: hence it is fair to suppose that their description would hold a pretty prominent part in the treatises upon epidemic and pestilential visitations. Pure exanthematic eruptions have from the remotest times of medicine been considered as the manifest results on the part of nature, which it effects in throwing off from the body the deleterious matters which it may have imbibed; and some physicians have imagined, and plausibly, that the measly efflorescence in typhus is a diagnostic mark constituting a chain of connection between continued fever and the exanthemata. It is quite an arbitrary distinction that divides the latter from the former, and if regarded in an abstract point of view, there is less positive difference in the real nature of the two orders of disease than nosologists would seem to infer. In the fevers occurring in some of the large towns in Scotland and Ireland, and in London, this (the measly) form of eruption is far more common than in the English provincial districts; generally speaking, with the exception of the metropolis and some of the cities and large towns in this division of the empire, eruptions in true cases of continued fever are by no means common, certainly very much less so than in the places above mentioned.*

* In this part of the country I never witnessed a single instance of the true elliptical rose-red eruption of typhus, and upon inquiring of other practitioners, they also bear testimony of its rarity.

When eruptions occur at a late period in typhus, such circumstances are accounted as by no means favourable conditions; and if they should not become manifest sooner than the tenth or twelfth day, such instances very often pass on to a mortal termination. Petechiæ are most frequently noticed in those fevers which assume much debility and prostration; and vibices, hæmorrhagic discharges, &c., are generally the concomitants of fevers the mortalities of which run high. Petechial spots, and the measly eruption of genuine typhus, are not only dissimilar in their ostensible characters, but appear to be produced by opposite morbid processes; and the following inferences may seem legitimate deductions as to their production. If the hand is drawn over the elliptical rose-coloured eruption of typhus, an irregular surface is felt as if from ill-defined papillar eminences; these upon slight pressure being made by the finger momentarily become pale and indistinct; upon the stress being removed they quickly recover their wonted pinkish-red appearance, and in the course of time the cuticle by which they are covered is desquamated. The livid hemorrhagic petechiæ are not elevated, but clearly circumscribed, cannot be obliterated by pressure, and the superjacent cuticle does not peel off. The former seems to be produced by anormal high vascular action, and are immediately caused by the rupture of the arterial capillaries, and not by the venous extremities, because we see that pressure readily empties them of their contents, and that when such pressure is suspended they quickly become refilled with bright arterial blood; therefore their circulation is not wholly arrested, but merely retarded in its course; and their elevation is most probably owing to the following conditions:—

1st.—To the increased calibre of the vascular extremities which transmit coloured particles.

2ndly.—To those minute ramifications which in a state of health give passage to a colourless fluid, becoming permeable to the red blood globules; this change being partly effected by an increase of power in the vis-a-tergo.

3rdly.—To the exudation, in a greater or less degree, of arterial fluid into the surrounding cellular tissue, which from

the greater impetus of the blood might not be allowed to coagulate; and the desquamation of the cuticle is undoubtedly owing to local pressure, which may either destroy its integrity, or so disorganise it as to render its excoriation an unavoidable consequence. The latter kind may have their origin from a different operation of causes; chiefly by the want of tonic power in the venous extremities, which becoming congested from retardation in the circulation of these parts, their calibres become enlarged, the power of propulsion destroyed, and rupture into the surrounding filamentous textures the result, when the effused blood there coagulates, and remains until the absorbents carry it off, because these spots in their colour and external character differ from the former, because pressure cannot disperse their contents, evidently showing that circulation is suspended, because they are clearly defined, and because they are mostly associated with asthenia. The cuticle is not thrown off, on account of its not having been subjected to subjacent pressure. We know that the function of circulation is immediately under the influence of the function of the nervous system—that the former is quite dependent upon the latter; and this holds good from the radical commencement of the arterial tree to its ultimate extremities, and between the minutest fibrillæ of nervous matter and the adjacent capillaries there is a positive relation: hence, if the great nervous centres become affected, which is the case eminently in fever, such affection is transmitted to the most distant parts: thus, in the adynamic, or, in the language of those "physicians who still linger round the ruins of the Brunonian school," the asthenic form, it follows that the fibrillæ of nerves which go to supply with nervous energy, the vascular extremities becoming affected, the vessels then being deprived of their natural nervous stimulus, their contractile power is deteriorated, and inordinate distension, rupture, and effusion into the surrounding cellular tissue, in a consecutive order, succeed; thus, from these premises it is plausible to conclude, that in fevers where much prostration and want of power exist, in such kinds of attack, petechiæ, vibices, hemorrhages, &c., are very probable sequences. According to Haller, the venous circulation may become so slow that coagulation may actually occur in the living body, without any extravasation; we may conceive, then, how readily the venous blood will coagulate when any conditions place it apart from the circulatory power. The conclusions arrived at by Stephens, Clanny, and others, were that the blood during fever became deprived of much of its fibrine, and we well know that in many malignant cases of typhus, the blood found in the cavities of the heart and in the large vessels is a dark thin fluid gore, instead of being as normally of a caky formative consistence; hence the blood being robbed of its lentor becomes far more liable to be transuded by the capillaries, and thus may we in some measure account for those passive hemorrhages which occasionally take place on the mucous surface of the alimentary canal, in the hepatic capillaries of the vena portæ, and into the various cavities of the body as well as in the cutaneous tissue.* Huxman, when speaking of petechiæ, makes the following correct observations:—"When black, livid, dun, or greenish spots appear, no one doubts their malignity; the more florid, however, the spots are, the less is it to be feared; it is a good sign when the black or violet petechiæ become of a brighter colour. The large black or livid spots are almost always attended with profuse hemorrhages."† In some epidemics upon record the petechiæ were not confined to the skin alone, but also distinctly discernible upon the serous membranes covering the viscera, and those who have had opportunities of examining the bodies of patients who have died of variola, will undoubtedly have seen instances where the eruption was manifest upon some of the internal surfaces.‡

The eruption noticed in genuine typhus has, and deservedly, been accounted as one of the most infallible diagnostics of that disease, although it may, as we are well aware, be absent, and the true affection be present; that

* Tweedie, Copland, Armstrong, &c.

† Huxman on Fever, chap. iii.

‡ Cases of small-pox have come under my own notice where the mucous membrane of the pillars of the fauces, on the pharynx, along the œsophagus, as well as on the surfaces of other of the internal organs, have been studded with variolous eruptions.—See Andral, Carswell, &c.

is, in those localities wherein those epidemics in which the eruptive form of the disease prevails. The physicians in the Edinburgh hospitals, at an early period in the summer of 1843, paid particular attention to the kind of spots that were noticed on the bodies of the patients labouring under the epidemic, and they sought, if possible, to find a case in which were united the seven days' fever, with the true typhoid rash, but in no individual could such be discovered. From the careful examination of at least twelve hundred cases, made by myself, in no single instance could the measly eruption be discovered in union with the short relapsing fever, nor do I believe that such were ever witnessed conjointly at all; if such had been noticed in a repetition of cases, and demonstrable conviction given that they might occur unitedly, it might then have been plausible to presume that the disorder now described was a mere modification of typhus, and not a new disease; because, as above insisted, the measly rash of typhus is the most indubitable of all other characteristics of that disorder; in fact, almost as much so as any of the other exanthematic eruptions are indicative of their respective affections.

The petechial spots in the seven days' fever bore a very near resemblance to flea-bites, and for such they were for some time taken. They varied from the size of a pin's-head to the section of a small pea; a single night would suffice for their production, and they maintained the purplish livid hue for two or three days, after which they gradually assumed a bright rose-red colour, which by degrees changed into a light fawn yellow, and then imperceptibly became indistinct. Many contending that they were always produced by fleas, in a number of instances, I made a careful examination, by means of a common magnifying lens, and found that no central puncta could be discovered, which was not the case in the spots left by the insects. Dr. Henderson also made some experiments, by which he came to the same conclusion, and from the accounts of the patients as well, no doubt whatever was left as to the nature of their origin; viz. that they were the spontaneous results of the disease. The cuticle on being examined by the lens during the time that they were dark and hæmorrhagic-looking, appeared tense and shining; when the fawn-yellow hue supervened it then became slightly wrinkled, but never desquamated. Dr. Christison informed me, that in 1817-20, the petechiæ, noticed in that epidemic, were precisely similar to those now spoken of. Dr. Arnott, of Dundee, in a paper published on the seven days' fever, says:—"I have only seen one case in which there was a combination of the yellow fever* with the eruption so resembling measles, as frequently observed in typhus†." In an isolated case, like that adduced by the writer, there may have been some source of fallacy, and it is very probable that the eruption in question was not the genuine typhoid rash, but urticaria, to which it bears a close resemblance. Facts deduced from meagre data necessarily endanger the correctness of an opinion, especially in medical science, where so much labour, research, and experiment, are absolutely demanded to fully and unequivocally establish a single fact, and where so much that is doubtful and positively false is mixed up with what we satisfactorily know to be true and acknowledged. Dr. Alison, in an article on the epidemic, states:—"None of these cases running the short course have shown the true febrile eruption resembling measles, although many have shown petechiæ, or purple spots, originating in flea-bites, and extending apparently by little ecchymoses‡" As insisted upon above, Dr. Alison seems to have erred in supposing that these spots were wholly attributable to flea-bites; there can be little doubt that the mark left by the insects would be attended with a certain degree of extravasation of blood, and, in some instances, so nearly simulate those spontaneously produced by the disease, as to render it difficult to discriminate between the two; which, however, could only be done by means of a magnifying power. From what has been said respecting the impoverished state

* From there being in the Dundee Hospital a very great proportion of jaundiced cases amongst the epidemic patients, the physicians termed it the yellow fever, in contradistinction from the ordinary typhus.

† Cormack's Monthly Journal of Med. Science, 1844.

‡ Scottish and North of England Med. Gaz. Oct. 1843.

of the blood in fever, its proneness to extravasation, and, in asthenic cases, the want of tonic power which there is in the capillary extremities, it may readily be conceived how flea-bites would operate as exciting causes to those little cutaneous effusions; but what has been endeavoured to prove is, that they were mostly the results of the disease, independent of such exciting causes. The neck, chest, superior and inferior extremities, were most frequently affected, and the spots were chiefly observed in the persons of weak and relaxed females, whose muscular system was flabby and resistless, and where a pallid and emaciated appearance was manifest. Dr. Craigie, in the paper which he wrote upon the fever, and published in his Journal, Oct. 1843, notices the condition, now considered, as follows:—"No eruption of spots is observed similar to that observed in genuine typhus. But in a certain proportion of cases an eruption of dark red spots, like those of purpura, was observed on the persons of patients. In some instances those bore so close a resemblance to flea-bites that they were entirely disregarded, or ascribed to this cause. In others, however, they appeared connected with the state of the individual's health. At length it was found impossible to doubt from the frequent occurrence of these purple spots that they were connected with the disease. They were seen in the first attack, and as that declined those spots disappeared. They did not, as far as I am aware, appear in the second stage or relapse. In some instances the rose-red spots of typhus were observed, but these were regarded as instances of a fever quite different*." From the cases which came under my own inspection, the petechiæ now spoken of were by far the most commonly noticed during the first attack, yet they would occasionally be manifest in the relapse: the subjoined case illustrates this fact.

CASE I.—*A usual form of the fever.—Present attack a relapse.—Crisis by diaphoresis on seventh day.—Hypochondriac and epigastric tenderness.—Dark, livid, circumscribed petechiæ.*

Janet Piffers, æt. 41, married, has had eight children; hair and eyes dark; reduced in flesh; countenance pallid, and looks anxious and depressed.

Admitted Nov. 24th.—States that her present attack is the second; that she was convalescent from the former attack, and suddenly relapsed, three days ago (Nov. 21st). Her indisposition was ushered in by shivering, dull and continued pains over lumbar and frontal regions, a sensation of stiffness in the limbs, nausea, anorexia, and great prostration of strength. This, the cold stage, continued for four hours, and was succeeded by flushings, heat of skin, much thirst, and increased headache; also slight sweats, which in some measure relieved the muscular and arthritic pains.

On admission, the skin is hot and dry; complains of aching pains in the superior and inferior extremities, in the small of the back, and forehead. Has great tenderness on slight pressure over the hypochondriac and epigastric regions; eyes not at all suffused, the adnata rather looks blanched, Upon a deep inspiration the thorax normally expands. No cough; breathing easy. Says she feels sick, and has vomited at intervals ever since the commencement of the attack. No pain upon pressure on the middle and inferior regions of the abdomen. Tongue covered with a thick, dirty, whitish-brown looking coat; is clean at apex and edges, these parts being somewhat redder than natural; towards the centre of the organ are two or three deep, longitudinal, and irregular fissures. Posterior part of dorsum more loaded, and of a deeper colour than the anterior—is generally moist. Sleeps indifferently. Bowels confined, Pulse 98, of tolerable strength.

Habeat Statim Pulv. Jalap. Co. drachmam unam. Mist. Diaphor. ℥viij. Cujus Capiat unciam, q. q. q. horâ*. Bibat potum. vegetab. ad lib.†

* Edinburgh Med. and Surgical Journal, Oct. 1843.

* The following are the formulæ of the diaphoretic mixtures prescribed in ordinary fever cases in the Edinburgh hospitals:—

Mist. Diaphor. Antim.

*Rec.* Aquæ Font. oz. vss.; Sacch. Purif. dr. iss.; Vini Ant. Tart. dr. iij.; Tr. Opii, gtt. xxv. Misce. Dosis oz. j.

Mist. Diaphor. Salin.

*Rec.* Aquæ Acet. Ammon. oz. ij.; Aquæ Font. oz. iv.; Syrup. Simp. dr. vi. Misce dosis oz. j.

† The annexed are the forms of the drink

25th. — Has vomited during the night, the matter ejected being a dark bilious fluid. Nausea continues. A good deal of headache, which is chiefly referred to the os frontis. Bowels opened three times with powder.

Mist. Cont. Sinapis Epigastrio. app. Abradatur capalitium.

26th.—Feels much the same as yesterday. Some nausea continues. Bowels open. Tongue moist, but foul. Pulse 108, rather compressible. Headache relieved by shaving.

Sp. Communis, ℥ij. in die. Enema Terebinth. injiciatur. Horâ Somni habeat haust. cum Sol. Mur. Morph. gtt. xxv. et Mist. Camph. ℥iss.

27th.—Symptoms much the same as yesterday, with the exception of the sickness, which has in some degree abated. To-day a petechial eruption is observed upon the skin, chiefly upon the chest and extremities. These spots vary, from the size of a pin's head to that of a small pea; they are of a dark, livid, purplish-red colour, not in the least elevated, and clearly circumscribed, greatly resembling in colour the purpura hæmorrhagica. When examined with a common lens, the epidermis covering them is a little shining, and perfectly whole, no puncta or flea-bite being discoverable. They have appeared during the last night, or rather since the visit at yesterday noon. Tongue foul, and moist; bowels opened; slept better; pulse 112, rather weak.

Sp. Communis. Mist. et Haust. Rep.

28th.—Sweat last night. Tongue cleaner, and moist. Says she feels improved; had two small watery stools. Eruptions of a brighter red; the spots are not more numerous than yesterday. Pulse 92, still small and weak.

Sp. Communis, &c. Cont.

30th. — Gradually improves, and gains strength. Complains of no pains, nor has had any return of the vomiting since the crisis. Eruption fading rapidly; the spots are now of a yellowish hue; the cuticle over them is bright and shining, and slightly shrivelled. Tongue nearly clean, and moist. Bowels open. Appetite more natural. Pulse 88, of better strength.

Ordered common diet*. Mist. omit. May have half a pint of porter in the day, instead of the spirits.

Dec. 2d.—Continues to improve.

4th.—Continues to improve, and eruption gone.

7th.—Progresses favourably.

10th.—Convalescent.

Remarks.—In the case of Piffers is afforded a good example of the manner in which the distemper usually sets in. We see that she had shivering, pains over the lumbar region, thirst, anorexia, slight sweats, &c. during the first two or three days; afterwards the skin became hot and dry, pain at the hypochondria and epigastrium; that the tongue was covered with the fur so peculiar to this fever; that there was a good deal of vomiting of a dark bilious fluid, and that she had a crisis by diaphoresis on the seventh day. The true characteristic petechiæ were present, and her convalescence was marked by a very speedy recovery. This woman was under the care of the late Professor Graham, and I well remember that to her case particular attention was paid, in order to ascertain satisfactorily the positive nature of the spots discovered upon her person, and from the woman's own statement, as well as from a strict experimental investigation, no doubt whatever remained as to the cause of their production.

Dr. Henderson, whose great experience in typhus fever renders his opinion highly valuable, places the greatest reliance upon the measly eruption as a diagnostic mark of that disease, and in a paper published by

generally ordered in fever cases, in the above hospitals:—

Potus Acidus Mineralis.

*Rec.* Aquæ Font. oz. xxxii.; Acidi Sulph. Dil. gtt. lxxx.; Sirup. Simp. oz. j.½ Misce sit potus acidus mineralis.

Potus Acidus Vegetabilis.

*Rec.* Aquæ Font. oz. xxx.; Potassæ Super. Tart. scrup. iv.; Syrup. Simp. oz. ij. Misce sit pot. Acid. vegetab.

The various other medicines prescribed in these cases, are according to the prescriptions and formulæ of the Edinburgh Pharmacopœia.

* The fever patients, on admission, were put on the subjoined diet:—

*Low Dict.*

*Breakfast*—Bread, 3 oz.—Tea, half a pint.
*Dinner*—Panado: Bread, 3 oz.; Milk, 2 oz.; Sugar ½ oz.
*Supper*—Bread, 3 oz.; Tea, ½ pint.

As under formed the common diet:—

*Common Dict.*

*Breakfast*—Bread, 6 oz.; Coffee, ½ pint.
*Dinner*—Potatoes, 16 oz.; Broth, 1 pint.
*Supper*—Bread, 6 oz.; Tea, ½ pint.

him five or six years ago *, it is stated, that out of 130 cases of typhus that had come under his notice, in 108 were found the genuine rosy eruption, and that six out of the remaining twenty-two were not admitted into the hospital until after the twelfth day of the disease. Dr. Cowan, of Glasgow, from an average of two thousand cases, found that between seventy and eighty per cent. had the eruption—that is, in the fever common to Glasgow. Dr. Cormack comes, and rather sweepingly, to the conclusion that the elliptical spots were observed in epidemic cases, although he is enabled to instance but one individual in whom the appearance was manifest—viz. Mary Wallace, one of the day nurses in the Fever Hospital. This woman I saw and examined during her epidemic attack, but could not certainly have affirmed that the eruption was of the true typhoid character; that it did resemble the measly rash must be allowed, and that it equally looked like urticaria was also evident. A short time, however, indisputably settled the matter, as this woman, in the course of a very few weeks after her convalescence from the epidemic, had a second attack, which was genuine and unequivocal typhus, in which the true rash was noticed: therefore the following quotation from the work already referred to, is exceedingly doubtful, if not absolutely incorrect—viz. "That there is such a thing as persons being occasionally affected with the measly eruption in addition to the usual symptoms of the present fever (meaning the seven days' fever)."

III.—*There was generally absence of the injected ferretty-looking eye.*

An injected condition of the eye in fever is an indication upon which the greatest reliance my be paid, that more or less of cerebral affection exists, especially during the state of excitement; but in a more advanced stage, when we have reason to suppose that serous effusion is going on in the ventricular cavities of the brain, the eye, instead of being red and ramified, is more frequently blanched and pale. Armstrong, when describing the symptoms attendant upon inflammatory action within the head, happily conveys the peculiar appearance of the eye, when he says that "there is a physical brightness with an intellectual dulness." The ferocious expression given to the features, when those organs are in a state of great vascularity, has always been regarded as a sure sign of head complication, that is, if the symptom be persistent; and when we consider the origins of the vessels supplying these organs, and that by the researches of pathological anatomists, by comparing the symptoms before with the morbid appearances after death, in such cases, there is mostly found great injection of all the vessels proper to the encephalic mass, with more or less of febrile effusion, the condition in question becomes a highly important diagnostic distinction. In the seven days' fever, the absence of vascularity in the eye, especially when compared with the true typhoid cases, particularly forced itself upon my attention; and after having witnessed many instances of the epidemic, from this pathognomic characteristic alone, it was almost possible to rightly discriminate between the two; and the absence of delirium and severe head complication which were noticed in the epidemic, tend to confirm the preceding remarks.

Pickering, Yorks.

[To be continued.]

* Edinburgh Med. and Surg. Jour. 1839.

### A CAUTION.

I ONCE lost a patient with diffuse cellular inflammation ending in mortification after the simple operation of castration; and I was disposed to attribute this unfortunate result, in a great degree at least, to the operation having been performed immediately after a long course of the tincture of iodine.—*Sir B. Brodie's Lectures illustrative of various Subjects in Pathology and Surgery.*

[REMARKS.—We have transcribed the above passage, with a belief that other cases may be adduced in which the long-continued use of iodine has rendered patients liable to suffer from diffuse inflammation, or other ill consequences after operations. We apprehend that a moderate use of the drug has never been productive of such results, but it is evident that where the system has become completely saturated with iodine, and is actually beginning to be injured by its effects, the patient must be as unfit to undergo any serious operation as he would be if suffering from the injudicious use of mercury or any other powerful constitutional remedies.—ED. GAZ.]

ON CERTAIN

# FALLACIES CONNECTED WITH THE USE OF THE IODIC ACID TEST

FOR THE DETECTION OF SULPHURIC ACID IN ORGANIC MATTER.

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Some years since, MM. Devergie and Taufflieb, in examining a case of poisoning by sulphuric acid, were induced to resort to the distillation of the stomach and its contents at a high temperature in order to detect the poison*.

Among the conclusions at which they arrived were the following:—1. That the mere boiling of animal matter, combined with sulphuric acid in water, is quite inadequate to the detection of the poison; and that the process is of no value whatever when the acid is in intimate combination with the tissues. 2. That the new process of MM. Orfila and Barruel, based upon the decomposition of sulphuric acid by animal matter at high temperatures, is superior to the other processes hitherto employed, inasmuch as in the present case there were only traces of sulphuric acid in the stomach, and the boiling of the organ in water did not aid its separation. 3. That, nevertheless, by the process of MM. Orfila and Barruel, a portion of the sulphurous acid (derived from the action of animal matter on sulphuric acid at a red heat) is lost when the alkaline sulphite (produced by receiving the sulphurous acid in ammonia) is transformed to sulphate by the addition of nitromuriatic acid. 4. That this inconvenience is avoided by collecting the liberated sulphurous acid, and passing it into a solution of iodic acid. 5. That this last mentioned acid, by its undergoing decomposition, becomes a new test for the existence of sulphurous acid in the products of distillation, as it is derived from the sulphuric acid in the stomach. 6. That the reaction of sulphurous acid upon iodic acid being exceedingly delicate, it is easy by this process to determine the presence of sulphuric acid in organic substances.

In his treatise on Legal Medicine, M. Devergie refers to these experiments, and there expressly states that the iodic acid, while it is a very delicate test, furnishes a *certain proof that sulphuric acid* must have existed in the matters submitted to analysis, either in a free state, or in combination with a metallic oxide. This statement is repeated in the second edition of his work, without comment (Médecine Légale, iii. 220—223).

In a work lately published* I suggested that this process was objectionable, from the fact that iodic acid was easily deoxidized by numerous substances very different in their nature, as sulphuretted hydrogen, morphia, gallic acid, sulphocyanide of potassium, saliva, and cyanide of potassium. A fallacy might also arise owing to the presence of sulphur in all mucous membranes, and in most kinds of animal matter.

A case has recently occurred to me in which the inapplicability of the iodic acid test, under the circumstances in which its use is advised by M. Devergie, will be apparent. Mr. Eastes, surgeon, of Folkestone, lately brought to me for examination the stomach of a man who it was suspected had been poisoned by some companions with whom he had been drinking. The contents of the organ were of a very dark colour, but the surface of the mucous membrane itself was not at all carbonized. No trace of sulphuric acid could be detected in the stomach or its contents, by the ordinary process of digestion in water and boiling. The dark grumous matter was found to be nothing more than altered blood, the man having suffered from an attack of hæmatemesis. An opinion was therefore given that the deceased had not died from the effects of sulphuric acid; and this was corroborated by other circumstances which transpired. Had the process advised by MM. Taufflieb and Devergie been employed, there is not the least doubt, from the facts about to be related, that sulphuretted hydrogen would have been obtained, and this, from its action on iodic acid, would have been considered to furnish

* Annales d'Hygiène et de Médecine Légale, 1835, vol. i. p. 427.

* Manual of Medical Jurisprudence, 1st Edit. 1844, p. 95.

evidence of the presence of sulphuric acid in the stomach.

The string with which the stomach was tied, appeared somewhat blackened, although quite firm and free from any signs of corrosion. A portion was dried and heated in a tube to redness:—the products of the distillation were received on paper saturated with starch and moistened with iodic acid:—blue iodide of farina was immediately produced. A portion of *clean* string similarly treated, had no effect on the iodic acid. The cause of the difference was undoubtedly owing to the blackened string being saturated with mucus and blood.

A portion of pure gluten, which contains sulphur, was now employed, and blue iodide of farina was immediately formed. The same result was obtained by heating macaroni, a piece of flannel, dried albumen, dried blood, caoutchouc, and lastly, a portion of the *dried human stomach* itself, in a case in which it was certain that no sulphuric acid could have been taken, and the organ had been well washed. The fact is, all substances containing sulphur will yield products at a red heat which easily deoxidize iodic acid; and I would suggest this as a good supplementary test for sulphur in organic matter, where the compound of oxide of lead in potash cannot be easily employed.*

It appears to me from the results of the foregoing experiments, that when sulphuric acid cannot be detected in the contents of the stomach in a free state, the chemical investigation must be considered at an end. The medical witness who depends on the results of the dry distillation of the stomach or its contents, may be induced to give a most incorrect opinion.

In the last edition of his Toxicology, Orfila adverts to this difficulty, but suggests that it may be removed by distilling to dryness equal weights of normal stomachs and intestines, and comparing the average results with those obtained from the dry distillation of the suspected stomach! This appears to be the refinement of medico-legal chemistry. Evidence which was based upon experiments of this kind, would not be received in an English Court of Law; for it would be impossible to estimate the exact amount of normal sulphur in the human stomach or its contents.*

In the work already referred to, I had recommended the employment of the iodic acid test according to the method above described for the purpose of detecting sulphuric acid in stains on clothing, accompanying the recommendation with the precaution that an opinion of the presence of the acid could only be expressed when unstained portions of the cloth similarly treated, gave *negative* results. In a recent examination of some stains on black cloth, I found that the iodic acid was easily decomposed, both by a stained and *unstained* portion of cloth. The result in the latter case most probably depended on the presence of sulphur in the woollen fabric. It has been already stated that clean flannel by dry distillation easily decomposes iodic acid: but I found that neither linen nor cotton had any action on iodic acid, except when stained with sulphuric acid. Neither of these fabrics contains sulphur: hence, before employing the iodic acid test in these investigations, it would be proper to enquire whether the organic substance be one of those which are known to contain sulphur. If not, the test may be employed:—otherwise it should be discarded. No risk can ever be incurred, if the analyst only adopts the simple plan of experimenting on a portion of the unstained material in the first instance. It would hardly be necessary to offer these remarks on the iodic acid test, were it not that it is the most delicate with which we are acquainted for detecting the acid in stains on clothing. A quantity of material (not containing sulphur), just visible to the eye, may, under proper precautions, be made to yield evidence of the presence of sulphuric acid, by receiving the products of decomposition on paper saturated with starch and moistened with iodic acid.

* Caoutchouc contains sulphur, but in consequence of the insolubility of this substance in potash, the presence of sulphur cannot be demonstrated in it in the usual way. When submitted to distillation at a high temperature, sulphuretted hydrogen is evolved, a fact proved by the action of the vapour on paper moistened with a salt of lead. This gas is produced in the destructive distillation of all organic compounds containing sulphur, and it deoxidizes iodic acid precisely like sulphurous acid.

* Traité de Toxicologie, i. 113.

# MEDICAL GAZETTE.

FRIDAY, MAY 29, 1846.

In the last number of the Quarterly Review we find the sketch of a plan for bringing the country under the rules of military conscription. If this plan is to be taken as a foreshadowing of the new Militia Bill, which the Government propose to introduce, it is likely to press with some hardship on the medical profession. It is more than three hundred years since medical men claimed and received from Henry VIII. the privilege of exemption from military service. We do not know, indeed, that any stronger reason for this exemption could be urged in the present day, than that put forward in this remote period by the Wardens of the Craft and Mystery of Barber Surgeons. In the quaint language of the time, they say, that "from the time that no mind is to the contrary," they and their predecessors "for the continual service and attendance that they daily and nightly at all hours and times give to the King's liege people, for the relief of the same according to their science, have been exempt and discharged from all offices and business, wherein they should use or bear any manner of armour or weapon, and with like privilege have been intreated as Heralds of Arms, as well in Battles and Fields as other places, therefore to stand unharnessed and unweaponed, according to the law of arms; because they be persons that never used feats of war, nor ought to use, but only the business and exercise of their science to the help and comfort of the King's liege people in the time of their need," &c. By the 32d Henry VIII. c. 40 and 42, both Physicians and Surgeons were exempted from watch and ward, and the bearing of armour.

We have quoted this passage, in order to shew that the privilege of exemption from even the semblance of military service, is of very ancient date; and we do not see why the medical profession has not now as good a ground for claiming exemption as the barber surgeons of the olden time. To suppose that a man engaged in practice can leave his patients to take their chance of death or recovery, while he is occupied in learning the art of war, is a simple absurdity. A militia act, therefore, which includes the medical profession, will be only another form of taxation, a sort of capitation tax applied to each practitioner who does not happen to be exempted by age or bodily incapacity. The Quarterly reviewer suggests that the Government should "disregard and therefore eradicate that dislike to military service which forms so conspicuous a feature in the character of the people of England" (!) The writer is evidently a military man, and deals with the subject *con amore*. He enters into a calculation respecting the number of civilians whom it might be requisite to withdraw from their ordinary occupations, shews how the ballot may be admirably improved so as to serve the purpose of furnishing no less than three classes of conscripts—"one for permanent though not for severe service, while the other two are to be kept in reserve." All this is very ingenious, but we doubt whether it will be satisfactory to the members of the two professions who are comprised in the class of Civilians; namely, lawyers and medical men. With the former we of course have nothing to do; they are able to defend themselves, and will doubtless show good cause against the rule which our military friend is desirous of taking.

When it comes to be a question of simply depriving a man of his profession, and himself and those who depend on his professional exertions of the means of living, by endeavouring to convert him through conscription laws into an unwilling and indifferent soldier, it is necessary to inquire upon what grounds such a proposition is made. "The theory of the law," we are told, "as it has stood for centuries, is excellent. The law holds that every British subject, unless he be incapacitated by bodily or mental infirmity, or is employed in the service of the altar or of the throne, or in the education of youth, is liable to be called out and armed and employed in the defence of the realm, should foreign or domestic enemies threaten it: and we deceive ourselves if we imagine that the progress of events may not bring us, and that shortly too, to deal with the law as with more than a theory." We may, however, remark, that so far as the medical profession is concerned, the principles of the old law are decidedly adverse to this statement; for the exemption of its members from bearing arms has been shown to be a very ancient privilege: and respecting the necessity for such an arbitrary invasion of custom and privilege, we by no means think it so imminent as the language of the writer would imply. We do not find that the statutes, 5 Henry VIII. c. 6, and 32 Henry VIII. c. 40 and 42, have been repealed*, and unless their provisions be annulled by the new Government measure, we do not see how the militia ballot can be legally made to include members of the Colleges of Physicians or Surgeons†.

The only privilege which our military writer would concede to us is that which exists under the conscription laws in France. Thus we are told, that "in France, where the conscription law is very rigid, no objection is offered to the providing of substitutes by persons drawn, if they can find them; and we do not see why to gentlemen of large fortune, to professional men and persons engaged in trade, the same facilities should not be afforded here. Militia clubs and mutual assurance companies stand, to be sure, open to objection. They impose a heavy and a constant drain upon the resources of the poor men who subscribe to them; and they would, if they were carried too far, defeat or hamper the purpose for which the militia law exists. But if the wealthy tradesman or manufacturer, or the professional gentleman or the country gentleman, prefer (!) paying any sum from ten to a hundred pounds to a poor neighbour, in order that the latter may serve while he abides at home, the state sustains no damage, while the individual hired to take his place in the ranks is by so much the better off. Neither need we pause to explain, that the means of remedying an injustice, which we believe to be more apparent (!) than real, in the working and issues of the ballot system, are at hand. The income-tax makes

* These acts are cited in a Parliamentary return of the rights and privileges of Members, made to the House of Commons, January 29th, 1846.

† It is probably owing to these statutes that neither physicians nor surgeons have any right whatever to the title of "Esquire." This appellation, now attached by courtesy to the names of members of the medical profession, is derived from the French *escu* and the Latin *scutum*, a shield; both of these being derived from the Greek σκυτος, which signifies the hide of which shields were anciently made, and with which they were afterwards covered. An esquire was originally he, who, attending a knight in time of war, carried his shield, whence he was called *escuier* in French, and *scutifer* or *armiger* (armour-bearer) in Latin; and thus we have the distinction on ancient monuments of *miles* and *armiger*. The title may be created as a dignified appointment by the Crown. Barristers-at-law are esquires; but attorneys are not, except in some of the colonies. Physicians or doctors of medicine duly licensed are not esquires, but they are considered to hold a position superior to that of an esquire. The addition of this title has nothing to do for its existence with the scale of precedence; because the title arises from office and not from position. Neither surgeons nor apothecaries can be regarded or treated as *armigeri*.

the Government pretty well acquainted with the extent of the pecuniary means of each of the Queen's subjects (!); and we see no reason why a money-scale should not be made out, so that the wealthy" (including, of course, professional men) "shall pay a fine, if drawn, *over and above providing his substitute*, while the poor give all they have to give,—their personal service."

So that, according to the views of this writer, if a medical man object to give up his professional practice, the sole support of himself and family, and which it may have taken him many years to acquire, the liberality of the Government might be so far extended to him as to allow him to escape military service, provided he succeeds in procuring somebody who has no means of living to take his place; and provided also that he does not object to a money-scale addition to an income tax, which already presses most heavily and most unequally upon his means! We cannot bring ourselves to believe that any circumstances short of the most imminent danger to the kingdom from hostile invasion—in other words, a struggle *pro aris et focis*—would induce a Government to propose so arbitrary and unjust a scheme as this for the sanction of the Legislature. The writer would not merely enforce the provision of substitutes, but he would make the Militia Act a ground for increasing the income tax on professional men, when it is notorious that there is no class upon whom this form of taxation presses with such grievous injustice—their income depending for the most part on nothing fixed, but on their own exertions. He further recommends that this additional income tax should form a fund for the support of the wives and families of men drawn and actually serving. The wives and families of those professional men who may be cut off by death or disabled from practice, may, however, struggle in the best way they can on means probably crippled by the levying of a fine on the new money-scale of this pseudo-philanthropist! It is unnecessary to examine these views further, as we think they are entirely foreign to the spirit of English institutions, and are therefore not likely to become the basis of the new Militia Act.

It appears to us that complete exemption should be extended to all members of the medical profession *actually engaged in practice*, for the following, if for no other reason:—The services rendered by medical men to the public are of a peculiar and special kind—they involve health and life, and they admit of no delay. The physician, the surgeon, accoucheur, and apothecary (a name which we prefer, for its antiquity, to the modern invention—"general practitioner," which is as applicable to a solicitor as to a medical man), each in his own way, cannot be spared by those whose lives depend upon his skill and experience. To remove the whole of the practising members of the profession, would be to consign the sick portion of the community to suffering and death; and to remove a part would still be *pro tanto* an evil, operating only to a more limited extent. We scarcely suppose it will be contended, so long as there are hundreds and thousands of the male adult population whose services to the public weal fall infinitely short of those so urgently and so constantly demanded from members of the medical profession, that the latter are to be dealt with as if the lives of even a part of the sick community were to be altogether disregarded. We do not consider this to be merely a question of loss to the practitioner; for all classes, professional or trading, would equally suffer in this respect; but of

*absolute necessity* to the public, who we believe would soon find that a forced conscription was dearly paid for in depriving them of professional aid in time of need. The military writer, upon whose remarks we have commented, kindly suggests that a professional man may buy himself off by paying for a substitute, and submitting to an additional impost in the shape of a tax: but we shall here beg to observe that it would be contrary to all equitable dealing to make a man pay for exemption from a kind of service which the necessities of the public render it impossible for him to undertake! Those, therefore, who contend that a fine should be levied on a *practising member* of the medical profession, as on a manufacturer or a wealthy country gentleman, must be prepared to contend that the services of the former are of no greater urgency or necessity to the community than those of the two latter classes. Can such an argument be reasonably adopted? We think not,—nor can we believe that the Ministers of Queen Victoria will have less consideration for the rights and privileges of the medical profession than the advisers of her ancestor King Henry VIII.!

The observations of the Quarterly Reviewer are ostensibly directed to the education and lodging of the soldier. He clearly proves that, in a moral and physical point of view, these are of the worst possible description; that there is no temptation for an honest, worthy, upright, or well-informed man to enter the army—hence its general demoralization—and the great difficulty of procuring a proper class of recruits. The obvious corollary is, that the abatement of these evils, and a more liberal system of remuneration, would bring into the army a larger number, and men of a better class, than those who are at present in the habit of enlisting. The writer might, we think, have carried his argument a little further, and have shown from his premises that when these most necessary improvements were made, the Government would no longer be under the necessity of either enforcing a French system of conscription among a class of men whose pursuits are entirely foreign to military service, or of allowing them to escape only by the payment of a heavy fine.

Since the above was written, we have met with the following remarks by Mr. Henry Marshall, Deputy-Inspector-General of Army Hospitals:—"A community of which about two-thirds are employed in trade and commerce, is peculiarly unfavourable for recruiting an army by compulsion, or by a forced conscription. The ballot operates as a tax, and no tax can be more iniquitous and oppressive than where the objects are selected, not because they are able to pay, or because they have property to preserve or defend, but because they happen to be of a certain age, and possess the requisite strength. But the measure is still more indefensible when substitution is permitted, it being no hardship for a rich man to provide a substitute; but personal service may irretrievably ruin a poor man, and to pay for a substitute may be far beyond his means. Whatever army may be deemed necessary for the defence of the country and its colonies, should be raised by government, and the expence defrayed by the community at large. It is both unjust and cruel to force individuals to serve in a military capacity, *when a little better encouragement would induce a sufficient number to enter the service voluntarily.*"—*Military Miscellany.*

Mr. Marshall's remarks, it will be seen, are directed against the militia system generally. We have searched

through the article in the Quarterly Review to find a reason why an army for the defence of the *whole* country is to be provided either by the personal service of, or by fines levied on that *portion* of the male population which happens to be of a certain age, and to possess the requisite strength; but we need hardly say, our search has been unsuccessful. The military logician involves himself further in this inconsistency: the army, on his own showing, is in a most demoralized condition, owing to the insufficient pay, neglect of education, and the bad lodging of the soldier; and the way to improve it, and raise it to a moral and respectable standard, is to *compel* men to serve against their will who have not the means to buy themselves off, and who have the most thorough dislike to military service! This feeling, however, upon the same authority, should be disregarded and forcibly eradicated. The arguments of Mr. Marshall appear to us unanswerable. Why is the community to be protected at the sole expense, or by the forced personal services of one small section, when all are equally interested? Before a permanent militia system is established, the experiment should be fairly tried of inducing men to join the army voluntarily, by removing those obnoxious practices, and abolishing that gross system of mismanagement which are so eloquently denounced by the Quarterly reviewer.

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PREMATURE DISSECTION.

Dr. Harlan, the American physician, who died suddenly with apoplectic symptoms, in the midst of the labours incidental to the epidemic yellow fever, had so little fear of premature dissection, that he requested that his body should be examined in *ten minutes* after death. Dr. Dowler, who reports this anecdote, does not state whether this extraordinary request was complied with.

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## Reviews.

*The Vegetable Kingdom, or the Structure, Classification, and Uses of Plants; illustrated upon the Natural System.* By John Lindley, Ph.D. F.R.S. and L.S. 8vo. pp. 908. London: Bradbury and Evans. 1846.

The great importance attached to botany of late years, as a branch of medical education in this country, being entirely due to the substitution of that which is called the "Natural System" for the artificial one of Linnæus, renders the publication of the most comprehensive work on the subject that has hitherto appeared in England, an epoch deserving of notice in the history of natural science. The system it is intended to elucidate, is one of utility too obvious to require any comment at the present day to recommend it to the attention of the medical student: under its auspices, botany has lost the abstract character by which the pursuits of its votaries were originally circumscribed, and has become a science, "teaching the physician how to discover in every region the medicines that are best adapted for the maladies that prevail in it; and which, by furnishing him with a certain clue to the knowledge of the tribes in which particular properties are or are not to be found, renders him as much at ease, alone and seemingly without resources, in a land of unknown herbs, as if he were in the midst of a magazine of drugs in some civilized country." A publication, like that before us, detailing the progress of a system so valuable, professing to be an epitome of all that has hitherto been done for its advancement, and including a vast amount of useful and interesting information on the different structures and products of the whole vegetable kingdom, the accumulated results of long and patient study, and judicious compilation from sources too widely scattered over the field of literature to be within the reach of the general reader, is not to be lightly appreciated: nay, entertaining only a just consciousness of the general utility of his work, the author may rest assured its popularity is little liable to be affected by the criticism

to which certain peculiarities of opinion on classification may give rise. If we comment upon these, it is rather in regret and disappointment that one possessing means and capabilities to improve as well as to modify, should neglect the former to indulge his fancy in the practice of the latter, and, to employ his own simile, waste his energies in adding to a heap of pebbles.

The "Vegetable Kingdom" of Dr. Lindley is the third of a series on the same subject; viz. the illustration of the natural orders of plants, their uses, and geographical distribution: regarding the mass of information on these subjects condensed within their pages, each has been an improvement on its predecessor, and the present undoubtedly so in a degree sufficient to compensate for the increased bulk and cost of the volume; but the classification in each is different, that of De Candolle being professedly the model of the first, while in the second a new and comprehensive arrangement of those natural orders which approach the nearest to each other in structure, is made subservient to the old artificial distinction of Exogens into Monopetalous, Apetalous, and Polypetalous, the orders being associated into alliances, the alliances into groups. This arrangement, valuable in many points of view, had its defects, some of which were, at the time of its publication, perhaps more severely criticised than was accordant with the limited pretensions of the author, as expressed in his preface; but our space is insufficient to admit of reference to them in detail, nor should we have noticed the subject at all, were it not that some leading features of his past system are characteristic of the present, or are so connected with the differences observable between the two, as to render comment indispensable.

One of the most remarkable characters of the "Natural System of Botany," was the introduction of a new class under the title of *Rhizanths*, including a series of parasitical flowering plants of a succulent, fungus-like consistence, variously placed by previous botanists. This class is retained in the present arrangement, though unquestionably opposed to all rules for natural classification: peculiarity of habit might justify its segregation in an artificial one, but the supposed peculiarities of structure belonging to the plants here located, are so evidently the result of imperfect or retrograde development accordant with that habit, that not the slightest ground exists for the formation of a natural class, while such genera as Orobanche, Monotropa, Lathræa, and certain Orchidaceæ, exist with their at present acknowledged affinities: they are equally Rhizanths, although perhaps a degree higher in the structural scale. Dr. Lindley, in commenting on the views of Dr. Brown and Mr. Griffiths regarding this class, seems to consider that their inability to point out any positive affinity between its genera and those of orders belonging to other classes, goes far towards showing the inefficiency of their arguments against it. This is, however, simply begging the question, showing the weakness of his own position, which forces him to gloss over his own defects by contrasting them with the unguarded points of his adversary. Before we can admit such trifling evidence to have any value in the controversy, it will be necessary for our author to mark out the limit beyond which obscurity of structure may be relied on as a character in natural classification. The fate of the nebular hypothesis in astronomy ought to render the student of nature careful of receiving as fact the evidence of an erring sense; and as the increased power of the telescope has dissipated the splendid dream of one philosopher, so may the improvement of the microscope shortly leave another no room for speculation on the organic differences of these certainly curious, although, in our opinion, far from isolated forms of vegetation. The rhizanths, or, as he now terms them, rhizogens, form the most exceptionable part of the system before us; and the sooner the class is abandoned the better.

The separation, as a class, of a small portion of the endogenous group, under the title of *Dictyogens*, rests on no better foundation than the preceding. The few genera comprised in it composed the group *Retosæ* of Dr. Lindley's "Natural System," and certainly form in some respects a transitional grade between Endogens and the exogeneous Menispermaceæ, inasmuch as the veins of the leaves are generally more or less irregularly reticulated, and those

organs are sometimes deciduous, while a central pith is often recognisable in the stem and its modifications; but these characters are neither absolute in Dictyogens, nor, though rare, are they always absent in orders which our author recognises as strictly endogenous. As a natural association this class is altogether untenable; as an artificial one, it is more calculated to mislead the student than to assist his investigations, and consequently opposed to the chief object of classification.

Such are the principal defects of this comprehensive work, and we are not disposed to detract from our expressed opinion of its value, by cavilling at those minor details of arrangement that do not exactly coincide with our own views on the subject. So complicated are the structural affinities of the vegetable kingdom, that, with the exception of a few great and strikingly charactered tribes, which constitute the basis of the so-called natural arrangement, the difficulty attending an unequivocal relative disposition of the orders appears insurmountable.

The author's remarks upon the discordant character of many of the names and terms that have been introduced into botanical nomenclature, and their influence in impeding the progress of the science, especially as a branch of general information, are much to the purpose; and his attempts at the substitution of English names in lieu of the scarcely pronounceable titles of certain orders, merit the praise and thanks of his less scientific readers, and the indulgence of the botanist in respect to the motive under which they are introduced; still, we cannot admire the euphony of some of his "English equivalents"—as *Hippurids*, *Antidesmads*, and *Chlenads;* and we are inclined to believe that reed-maces, cuckow-pints, and gourds, might well replace *Typhads*, *Arads*, and *Cucurbits*. If these secondary names are intended for the edification of the unlearned, and to be adopted by them, they ought to be such as to convey some idea of resemblance to certain familiar objects, or, if that be not possible, at least bearing reference to some well-known product; absurd as the notion may appear to some, we would rather say, to the uninitiated, "a plant of the mahogany tribe," than a *cedrelad*. Where generic names have been adopted into our common conversational language, as orchis, iris, &c. it has arisen from public attention having been first directed to the plants under those appellations; and such instances do not furnish any apology for the introduction of new terms and terminations into a phraseology already far too profuse and overlaboured. One of the greatest evils in our botanical nomenclature is due to the practice, indulged of late years to an enormous extent, of giving long classical names to newly formed or discovered genera, but a still greater, to that of bestowing on them the patronymics of obscure individuals, or, at least, of those who, however usefully employed in adding to our heap of pebbles, would never have been heard of beyond their own little circle, but are by this means thrust forward to mingle unceremoniously and on equal terms with the few mighty ones, whose names should stand alone as beacons in the track of human science. The practice is absurd; nay, the affix of a classical termination to many of our Anglo-Saxon and other modern European names, is ridiculous in the extreme; and as any genus may be assumed as the type of a natural order, we may hereafter have Smithiaceæ, Bakeraceæ, and Hodgesiaceæ; which might be rendered, according to the improved nomenclature, as Smithiads, Bakerads, and Hodgesiads—words of equal euphony, and equally characteristic of the objects referred to, as *Desvauxiads*, *Henslovads*, and *Stackhousiads*.

The above remarks are not made with any hypercritical feeling, or with a view of detracting from the value of a very beautiful work. Its faults (and what human production could be expected to be without such) are perhaps rather those of the times than of the author individually. The desire for improvement, however laudable, requires to be carefully indulged, lest it should lead us astray from the true path. Change does not imply progression, although often mistaken for it; and those who seek it ought to bear in mind how much easier it is to divide and destroy than to build or produce. The repeated alterations in arrangement and nomenclature, adopted or introduced by almost every writer upon the subject, have

tended more to retard the progress of natural history than to advance it, and have indeed rendered the whole fabric a mass of confused materials, in which great general views are sacrificed continually to the subserviency of the minor details; and although we agree with Dr. Lindley, that "consistency is but another name for obstinacy," we cannot but think, likewise, that it may be too heedlessly departed from. Viewing his book, however, in the aggregate, and in its present form, without reference to those which have preceded it, it is truly an admirable performance—a library of information, in the department of science on which it treats, as well to the general as to the scientific reader. The numerous well-executed glyphographic illustrations, upwards of five hundred in number, are generally well chosen, and contribute greatly to enhance the usefulness of the work, by the copious details which many of them present of the characteristic structure of the Orders. The great extent of the work renders it impossible for us to attempt to convey to our readers any general idea of its plan and execution, unless we much exceeded the necessary limits of brevity in this notice. The author himself states, in his preface, that "its object is to give a concise view of the state of systematical botany at the present day, to show the relation or supposed relation of one group of plants to another, to explain their geographical distribution, and to point out the various uses to which the species are applied in different countries. The names of all known genera, with their synonymes, are given under each natural order, the numbers of genera and species are in every case computed from what seems to be the best authority, and complete indices of the multitudes of names embodied in the work are added, so as to enable a botanist to know immediately under what natural order a given genus is stationed, or what the uses are to which any species has been applied. A few extracts will serve to show the amount of valuable information collected on the latter head, and the concise manner in which it is embodied under each order. Much of this appeared in Dr. Lindley's previous work, but it has been greatly added to in the present volume. This information, the most interesting part of the work to the general reader, occupies in many of the orders a space equal to two or more closely printed pages: we shall here confine our extracts to those of smaller compass, and give the first without abridgment:—

*Properties and uses of Smilaceæ.*—"The demulcent powers of sarsaparilla are well known. This drug is the produce of many species of smilax, as S. Purhampuy, a Peruvian species, highly extolled by Ruiz; Smilax medica, which furnishes the sarsaparilla of Vera Cruz; S. syphilitica, which, according to Dr. Pereira, yields the Lisbon or Brazilian sort; and S. officinalis, which the same acute pharmacologist suspects to be the Jamaica sarsaparilla, the best in the English market. Dr. Hancock maintains that the only sarsaparilla to be relied on for medical use, is that of the Rio Negro. Martius says (Flora Bras), that S. papyracea (officinalis, Pöpp.) yields Brazilian or Lisbon sarsaparilla, and that many others are of medical value. It also appears that a considerable quantity of Smilax glycyphylla, of excellent quality, has been imported from New Holland; the leaves of this plant are known under the name of sweet tea. Various Asiatic species, such as S. zeylanica, glabra, perfoliata, and leucophylla, are reputed to be little different in their qualities from the American species. Smilax excelsa and aspersa are common substitutes in the south of Europe; according to Dr. Walsh (Hort. Trans. vi. 41), the root of both S. aspera and S. excelsa, which abound on the hills and in the woods on both sides of the Bosphorus, is used in decoction, like sarsaparilla, for which it is sometimes substituted. Nees and Ebermaier say that it sometimes comes into the market under the name of Italian sarsaparilla, but that it has little resemblance to the genuine drug. Smilax China has a large fleshy root, the decoction of which is supposed to have virtues equal to that of sarsaparilla in improving the health after the use of mercury. According to the Abbé Rochon, the Chinese often eat it instead of rice, and it contributes to make them lusty (Ainslie, i. 70). Roxburgh informs us that the large tuberous rhyzomes of lanceæfolia are much used by the natives of India, and are not to be distinguished from China root. The juice of the fresh tuber is taken inwardly for the cure of rheumatic affections, and the refuse, after extracting the juice, is laid over the parts most painful. American China root is reported to belong to this plant: but several species seem to be mixed together by botanists under this name. Elliot says, that he believes Smilax pseudo-China to be the one generally preferred in medicine as an alterative, and that it forms the basis of many

diet drinks among the unlicensed faculty of the United States. From the tubers, with maize, sassafras, and molasses, the negroes of Carolina manufacture a very pleasant beer." (p. 215.)

Again, in reference to the properties of *Simarubaceæ*, we find the following:—

"The species are intensely bitter. A plant called Paraiba in Brazil, the Simaruba versicolor of St. Hilaire, possesses such excessive bitterness that no insect will attack it. Specimens of it, placed among dried plants which were entirely devoured by the larvæ of a species of Ptinus, remained untouched. The Brazilians use an infusion in brandy as a specific against the bite of serpents, and also employ it with very great success to cure the lousy diseases to which people are subject in those countries. The wood of Quassia amara is intensely bitter. Lund and others assert that it does not yield the Quassia chips of the European druggists, but refer them to Picræna excelsa. But Guibourt says, that the wood of both the root and stem of this Quassia is imported in the form of white, scentless, very light cylinders, 1—2 inches in diameter; and that the Picræna wood is inferior in quality. I learn, however, from Mr. Lana who resided for many years in Surinam, that although large quantities of quassia were exported twenty or thirty years since, yet that for many years none has been collected for that purpose, and he did not hear of a single instance of its shipment during the ten years he passed in Surinam. Quassia wood is in fact no longer used even in that colony as a medicine, being thought to have some bad properties along with its intensely bitter principle. The flowers are, however, still infused in wine or water as a stomachic. The bitter has been used as a substitute for hops in the manufacture of beer; an infusion of the chips is employed to poison flies. Simaruba amara is more commonly employed. The bark of the root is stripped off and sent to Europe. In Cayenne, the decoction, which is bitter, purgative, and even emetic, is used in fevers and diarrhœa. The wood has similar properties, but is less active. The Jamaica plant, which, being dicœcious, may be another species, has an inodorous bitter bark which yields its properties to both alcohol and water. It has been remarked that the infusion is more bitter than the decoction. It acts as a tonic, and is used in dyspepsia, diarrhœa, chronic dysentery, and all cases of impaired tone of the alimentary canal. Nima quassioides is used for similar purposes in the North of India. The timber of Simaruba amara is described by Sir R. Schomburgk, as resembling White Pine, both in colour and quality; Niessa Bark, an Indian febrifuge, is obtained from Samadera indica. Brucia antidysenterica and Sumatrana possess properties similar to those of Quassia" (p. 476).

Under the Palmaceæ we find the following remarks in relation to a singular substance which has lately come into extensive use.

*Vegetable Ivory.*—"The hard albumen of some species is turned to use in manufactures. The Hyphæne furnishes materials for rosaries; and Date kernels have been used by the turner; but the most celebrated is the Vegetable Ivory. This is the produce of a tree found on the banks of the river Magdelena, resembling Palms in its leaves, which equal the Cocoa-nut in dimensions, in its torulose scaly stem, and finally in the remarkable structure and weight of its fruit. Humboldt. The Spanish botanists Ruiz and Pavon, also met with it in the groves of Peru, in the hotter parts of the Andes, and named it Phytelephas macrocarpa. The natives of Columbia call it Tagua, or Cabeza de Negro (Negro's head), in allusion, we presume, to the figure of the nut. Almost all we know about it is contained in the following memorandum, published by the Spanish writers above mentioned. 'The Indians cover their cottages with the leaves of this most beautiful Palm. The fruit at first contains a clear insipid fluid with which travellers allay their thirst; afterwards this same liquor becomes milky and sweet, and it changes its taste by degrees as it acquires solidity, till at last it is almost as hard as ivory. The liquor contained in the young fruits becomes acid if they are cut from the tree and kept some time. From the kernels the Indians fashion the knobs of walking-sticks, the reels of spindles, and little toys, which are whiter than ivory, and as hard, if they are not put under water; and if they are, they become white and hard again when dried. Bears devour the young fruit with avidity. The toys prepared from it by the turner are well known in the London shops, and are much admired for their beautiful texture.'"—138.

*Iodine in the Algæ of fresh waters.*—"The Confervals found in many thermal springs, mostly species of Sphærozyga, are used empirically as external applications to goitre, enlarged glands, &c. Henry has examined the Confervals in the springs of Vichy, Neris, and Vaux, and found small quantities of an alkaline iodide in each."

*Taxaceæ.*—"The leaves of the common yew are fetid, very poisonous, especially to horses and cows. The berries are not dangerous. The seeds are said to be unwholesome. On the authority of an Italian physician, it is stated that yew-leaves, when administered in small doses to man, have a

power similar to that of digitalis over the action of the heart and arteries, reducing the circulation, and if persisted in too long, or given in too large doses, as certainly fatal. Yew is, however, reported to have one decided advantage over Digitalis, by its effects not accumulating in the system; so that it is a much more manageable and more efficient remedy. *Burnett.*"—p. 231.

From a concise table at the end of the volume, we learn that there are at present known to botanists, 20806 genera, and 82606 species of plants.

In conclusion, we do not hesitate to affirm that the "Vegetable Kingdom" of Dr. Lindley is an important acquisition to the botanical literature of this country, and there is not any work upon the subject that we would more earnestly recommend to the student of the science. To the medical practitioner especially, quitting home for a residence in any part of the world, it will prove not merely a useful, but a necessary companion.

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*Lehrbuch der Medicinisch-Chirurgischen und Topographischen Anatomie.* Von J. E. Petréquin, aus dem Französischen übersetzt, von Dr. E. v. Gorup Besanez. Lief, 1-2. Erlangen, 1844.

*Manual of Medico-Chirurgical and Topographical Anatomy.* By J. E. Petréquin. Translated from the French into German, by Dr. E. v. G. Besanez. Parts I. and II. 8vo. pp. 192. Erlangen, 1844. Ferdinand Enke.

This manual is especially intended for the German student, and therefore calls for but little notice from us. The plan adopted by M. Petréquin is essentially practical, but it differs entirely from that which is commonly pursued by anatomical writers. Instead of giving the bones, muscles, vessels, and nerves, in distinct sections, he describes them in the order in which they occur in each part or organ. Thus the anatomical history of a part is at once completed. He then describes various measurements useful in practice, the surgical operations required, and the various circumstances which demand the attention of the practitioner in the treatment. The design is a good one; for practical anatomy and operative surgery are hereby combined in a way well fitted to impress the facts on the student's mind. The two parts before us do not comprise one-half of the work, but, so far as we can judge, it is likely to prove a very useful compendium of surgical anatomy.

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## Proceedings of Societies.

### ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Tuesday, May 12.

Dr. Babington, in the Chair.

*On the Relation between the Constituents of the Food and the Systems of Animals.* By R. D. Thomson, M.D., Lecturer on Practical Chemistry in the University of Glasgow. [Communicated by Sir B. C. Brodie, Bart.]

The first individual who showed that wholesome food should contain matters identical with animal substances, was Beccaria of Bologna, who wrote an excellent paper on the subject in 1742. Dr. Prout has taught and extended this view for more than twenty years, and his opinions are now followed by all physiologists. That the systems of animals are capable of sustentation by a supply of fibrinous matter alone, is obvious from the history of the primitive inhabitants of the prairies of America; but it appears from experiments made on the nutrition of animals with pure fibrin, that an auxiliary in the production of animal heat is either indispensable or advantageous, since animals fed on fibrin alone invariably declined in health—(Magendie). That the amount of *calorifient*, or heat-producing food, in contradistinction to nutritive food, properly so called, as it has been well defined by Liebig, is out of all proportion greater than that required to supply the waste of solid matter of the body, is obvious from an experiment made by the author on a cow, in a state of rest, in which it was found that 15¼lbs. of food were taken into the circulation in one day. Of this, only 1½lbs. was nitrogenous or nutritive of food; the rest being *calorifient* and saline. From this experiment, frequently repeated with nearly the same results, the author concludes that in such a condition of the system, the natural relation of the nutritive to the calorifient constituents is nearly as 1 to 8⅓. The author gives formulæ for calculating the amount of nutritive and calorifient food, with a view to determine the laws of dieting. He also gives tables from his own analyses, of the amount of nutritive matter in about twenty different kinds of vegetables (principally farinaceous

food). By these it is shown that oatmeal consists of 1 nutritive and 5 calorifient matter, and barley 1 and 7—facts which explain the universal employment of these substances. From these tables it is also inferred, that as milk is the natural food of the infant mammalia, the constitution of their food should be formed on the same type, and that the use of arrow-root or starchy food, where the relation of the nutritive to the calorifient matter is as 1 to 26, instead of being as in milk 1 to 2, is opposed to the principles attempted to be established by the author. He observes that, in nutritive tables, it is usual to give a column of equivalents—representing, for example, 100 parts of beans as equal in nutritive power to 1160 of starch; but according to the author's views, such a method is not founded on scientific principles. In a correct plan of dieting, a proper equilibrium must be maintained between the wants of the animal organism and the constitution of the food. The importance of this view is supported by the results of an extensive series of experiments, made by the author with different kinds of food upon cows. These results are highly interesting, and were given in a tabular form, but our limits will not allow us to detail them at length.

The author concludes by observing that, when more condensed forms of vegetable are required, the object might be obtained by mixing certain portions of American flour with different kinds of meal, which could not otherwise be raised by fermentation; for example, by mixing equal parts of flour and oatmeal, flour and peas or barley meal, excellent bread could be formed; and two-thirds of Indian corn with one-third of flour yielded an excellent loaf.

Dr. Thomson, in answer to a question, stated that the quantity of water consumed by the animals in these experiments was truly enormous. The brown cow swallowed six gallons at a time. His observations on this point went to prove the correctness of those made by Sir B. Brodie, who had found that these large quantities of water had been disposed of in the colon; the stomach could not hold them; thereby proving that absorption of saline matters went on in the colon.

Dr. Snow said that he considered organic chemistry would have to be much further advanced than it is at present, before it would be safe to allow it, in giving directions on diet, instead of being guided entirely by experience. It was true, that farinaceous food did not suit young infants, especially in large quantity; he so far coincided with Dr. Thomson's theory; but if we were to argue, from the chemical constitution of the milk, as to what ought to be the chemical constitution of the food to be adopted after weaning, it would have to be a sort of diet that we had never known given to children; they could not digest beans, and the only alternative would be, an exclusive animal diet. But the fact was, that the chemical constitution of milk was no criterion of what should be the food afterwards; there was the smallest possible difference in the chemical constitution of the milk, which was the earliest food of all the mammiferous class; but no sooner was this left off, than they betook themselves to the most different kinds of nutriment, some living on grass, and others exclusively on flesh. This was in accordance with the circumstance, that there was a great resemblance in organization in the early period of the devolopment of animals, and that they took in their specific characters as they grew up. Dr. Thomson had spoken of the albumen and other nitrogenous constituents of food as the nutritive part, and of the farina as the calorific portion. He had indeed admitted that the former might assist in the function of respiration, but he had not admitted that starch might assist in nourishing the fibrinous tissues. It happened, however, that many animals living exclusively on coarse vegetable food, of which the nitrogenized elements formed but a small part, were amongst the strongest and most active of the animal kingdom, and possessed a lower temperature than did, in general, the carnivora, many of which were lazy and inactive in their habits. Taking all circumstances into consideration, the opinion of Dr. Prout must be the true one—that the saccharine elements of the food, as he called them, combined with the nitrogenous principles of the bile, and were thus capable of renewing the waste of the body. and that the vegetable feeders were not condemned to burn off the greater part of their food as fuel in the lungs.

Dr. Golding Bird, whilst he bore testimony to the industry and patient investigation which characterized the researches of Dr. Thomson, could not agree in the conclusions at which he had arrived with reference to the dietary of persons in health and disease. It should be recollected, that previous to the labours of Liebig, the proportion of carbon which existed in various articles of food was thought to offer a fair indication of their nutritive power. That distinguished philosopher, however, had shown the fallacy of such a view, and had proved that, with the exception simply of the fatty tissues, every structure in the body was supported, and its waste supplied, by the nitrogenized elements of food. Dr. Thomson's paper had the merit of satisfactorily showing that animals could not be well nourished on nitrogenized or carbonized food by itself, but that there should be a certain proportion between the two, so that the richly-nitrogen-

ized food might make up the waste of tissue, whilst the richly-carbonized would become a source of animal heat. He (Dr. Bird) did not believe that the composition of the food of the infant animal, or milk, gave us any sure indication, in our selection of nutriment for the adult; for milk, nearly identical in composition, afforded nourishment to the infant cat, sheep, and porpoise; whilst, in after-life, how remarkably different was the food of these different animals. Admitting that the tables of Dr. Thomson were correct, it would seem that the most nutritious food for infants and invalids, next to milk, would be beans and peas. This could not be followed out practically. White bread, according to the tables, was below beans and peas in nutritious power; but, trusting to the same authority, a portion of cheese added to it would, theoretically, raise it high in the scale of nutriments: yet who would carry out this view practically? He admitted that infants might be literally starved from eating arrow-root, in consequence of their supply of nitrogen being cut off; he yet believed that in these inquiries sometimes more than the mere chemical principles must be taken into the account in our determination of the diet we shall select for our patients. The ease with which different kinds of food were digested, and the vital endowments of the stomach, must not be overlooked.

Dr. Babington observed that the last speaker had gone much too far in his criticism, as every one must be aware that animal food and some other kinds of condensed nitrogenous matter might not be suited to children, from their difficulty of digestion. He considered the paper a very valuable one, and deserving of the thanks of the Society.

*** [Although one of the speakers stated that there was not much novelty in the views brought before the Society by Dr. Thomson, we confess, that to us, and to all with whom we have conversed on the subject, many of the facts and deductions are quite original. The table, which exhibited an increase in the butter of the milk of the cow, in proportion to the augmentation of nitrogen in the food, is perfectly new, and apparently at variance with the theories of Liebig, who derives the butter from the starchy constituents of the food; but which Dr. Thomson reconciled, by considering the food in these cases to be so formed as to restore the proper equilibrium of the system of the animal. This view also leads to the novel suggestion, that by experiment we should determine the amount of matter removed from the system under different circumstances of rest and exercise, and that a true plan of dieting should be founded on such knowledge, and should not be left to mere instinct. We believe with Dr. Thomson, that on this consideration depend the true laws of dieting,—a subject of so much the greater interest in an artificial state of society, where the food is too frequently concocted to minister to the palate instead of to the condition of the waste of the system. The relation which Dr. Thomson instituted between the food serving for nutrition and that for the mere production of animal heat was very striking, and we have certainly never seen the subject so treated before. This analysis of arrow-root, tapioca, and sago, was also quite new, and demonstrated the impropriety of employing them as food for children. The table, already alluded to, showed, contrary to the statement of one of the speakers, that arrow-root could not produce fat, and that such views are imaginary. The table containing the amount of albuminous matter in various kinds of vegetable food, was highly important. The higher position occupied by Scottish oats and barley-meal over English flour is a new and startling statement. We concur in the concluding observation in Dr. Thomson's paper, that his remarks tend towards an extensive field of experiment and deduction, of a highly practical nature, and may assist in indicating the direction in which the physician should pursue his inquiries when studying the laws by which the animal system is to be retained in a state of health. — *Reporter of* The Gazette.]

*An Account of a Case of Rupture of the Gall-Bladder from external violence.* By D. Maclachlan, M.D., Physician and Principal Medical Officer to the Royal Hospital, Chelsea.

The subject of this case was a pensioner aged seventy-seven, a large and powerful made man, but now reduced in flesh, and feeble. He had been a patient since March, 1844, for weakness of intellect, senile debility, and loss of memory. There were no signs or symptoms of disease, except those referrible to the brain. On the 9th of February, in the act of getting out of bed, he fell with great violence on the floor, having taken a hearty meal some hours previous.

He was insensible for a time, but rallied, when he vomited the contents of the stomach. There was epigastric tenderness; the pulse scarcely perceptible, and great prostration of strength. On the following day the belly was generally tender under pressure, partly about the iliac regions. He died forty-eight hours after the fall. On examination after death it was found that

the gall-bladder had been ruptured, with copious effusion of bile into the cavity of the abdomen, producing intense peritoneal inflammation. The gall bladder was much atrophied, but there was no apparent disease of its coats. A calculus the size of a large nut was impacted in the cystic duct, just as it leaves the reservoir. The liver was healthy.

After referring to cases of a somewhat similar nature, detailed by several writers, the author concludes by observing that a practical caution may be derived from such a case, viz. the danger of employing emetics for the expulsion of biliary calculi—a practice which some physicians are in the habit of recommending. Dr. Stokes, in his "Lectures on the Theory and Practice of Medicine," states that a distinguished medical friend related to him the particulars of a case in which the gall bladder was actually ruptured after the exhibition of an emetic.

## Hospital and Infirmary Reports.

### UNIVERSITY COLLEGE HOSPITAL.

*A Case of Sympathetic Epilepsy, treated with the Extract of Cannabis Sativa.* With Clinical Remarks, by Dr. A. T. Thomson. (Communicated by Septimus Lowe, M.R.C.S.L.)

Hannah G——, æt. 28, admitted under Dr. Thomson, April 22, 1846. She is of slight conformation, sanguine temperament, and fair complexion. She has been a dressmaker during the last eleven years, and has been married six years, but has only had one child. She has lived well, although she has been obliged to take her meals at long intervals, and then to eat them quickly. She has been badly clothed during the last two years. She has generally slept well, and is naturally of a cheerful disposition; but for the last two years she has had a great deal of vexation and anxiety of mind. During the last six months she has been living and sleeping in a damp kitchen in a confined situation, with a bad smell constantly proceeding from a sewer passing through beneath the kitchen pavement. She had previously resided in an open, healthy situation, but always in London. She had an epileptic attack when she was nine years of age, and the fits have continued ever since at intervals averaging about six weeks, although she has had as many as two in a week. With the first attack she lost her speech, and the use of both sides of her body for a short time; she does not know how long. She has also had occasional pains simulating rheumatism; but in the intervals of the fits she has enjoyed very good health. Four days previous to the present attack, she was greatly disturbed by a report of her mother's death being communicated to her; the weather at the time was cold and damp, and she frequently got her feet wet from the badness of her shoes. Her father and one of her sisters died of consumption, but none of the family except herself has been affected with epilepsy.

The present attack commenced on the 12th of April, but she did not keep her bed, nor had she any advice previous to her admission. She fell suddenly down, was violently convulsed, and her body twisted to the right side. This fit continued about five minutes, and recurred after an interval of two minutes. During the continuance of these fits she was perfectly conscious, although the fits continued to recur almost incessantly until her admission.

At present she lies upon her right side. She has fits recurring every three or four minutes, and lasting about the same length of time. During the fit the face is drawn to one side, and the whole body is twisted to the right; there is twitching and working of the eyelids, the fingers, and the wrists; the right leg is extended and rigid; there is violent action of the flexors of the right arm, whilst the extensors are partially paralysed. The pupil of the eye is sensible to light. The patient is perfectly conscious, and moans during the fit; and as she recovers a general tremor runs through the whole frame. During the intervals she is unable to articulate clearly, and the attempt to do so throws her into another fit immediately. She has lost all power over the right arm and right leg, which are painful. She passes her motions and urine involuntarily in bed. Menstruation has always been regular. The organs of respiration, and those of circulation, digestion, &c. are natural. She was ordered—

℞ Hyd. Chlor. gr. iv.; Ext. Colocynth. C. gr. viii. ft. pil. ij. statim. sumend.; Sp. Assafœtid. fʒj.; Ammon. Sesquicarb. gr. v.; Mist. Camph. fʒiss. haust. 8va. quaque hora sumendus, and to be cupped in the nape of the neck to the amount of twelve ounces.

April 24th.—The fits continue as violent as ever.

℞ Decoct. Cinchon. fʒxij.; Tr. Hyoscy. ♏xx; Sp. Ammon. Arom. ʒss. haust. 4ta. quaque hora sum.

27th.—The fits not diminished in frequency or violence; pulse soft, 90; bowels open; motions and urine passed involuntarily; has had no sleep for several days; power of motion over the right arm and leg completely lost, but sensibility remains.

℞ Oxydi Zinci, gr. j.; Extract Cannab. Sativ. gr. j. ft. pil. c. sing. dosib mist. sum. Pergat. in usu mist. To have a blister applied to the nape of the neck, and the blistered surface afterwards dressed with a grain of hydrochlorate of morphia night and morning.

28th.—The head is hot and painful.

To have the scalp shaved, and cold lotions constantly applied. The hydrochlorate of morphia to be omitted.

29th. — Some degree of feverishness, heat and pain of scalp continue.

To be cupped between the scapulæ to the amount of eight ounces, and continue the pill, adding half a grain of the extract of cannabis sativa, and oxide of zinc to each dose.

May 2d.—The fits are less violent, but still very frequent; the head still hot and painful; there is pain also in the wrist.

To have six leeches applied to the wrist, and continue the medicine.

5th.—The head is improved, and the fits less violent; cannot obtain any sleep; mind rather confused.

A mustard poultice to be applied to the nape of the neck, and continue the medicine, increasing the dose of the extract of cannabis sativa and oxide of zinc to two grains, and to have an aperient draught.

7th.—Much improved; fits fewer and less violent; some pain in the region of the liver; urine natural; pulse small and soft, 80.

Continue the medicine.

9th.—Still improving; has not had a severe convulsion since last evening.

To have a chop daily, and continue the medicine.

12th.—Quite better in every respect; power over the arm and leg returning.

Continue the medicine.

Dr. Thomson observed, that this was a case of great importance; as it displayed both the nature of the disease, and the influence of the remedies employed. In the first place he would call attention to some important points in the history of the case, as tending materially to elucidate the cause and nature of the disease. The patient was a dressmaker; consequently of sedentary habits, and this always increases the susceptibility to nervous diseases, and peculiarly predisposes to epilepsy. Again, the long intervals between her meals, and the hearty manner in which the patient indulged afterwards, would tend to produce gastric derangement, and so act as a predisposing or incidental cause of the disease. Mental anxiety also clearly tends to derange the nervous system, and may act either as a predisposing or an exciting cause of disease. Another grand predisposing cause is seen in the damp, cold, confined, unhealthy abode of the patient.

True epilepsy is hereditary, but there does not appear to be any ground for supposing this to be of that description, as both her father and sister died of consumption, shewing a scrofulous tendency; but not at any time displaying epilepsy. The patient herself is evidently of a strumous diathesis, and Dr. Cheyne has remarked that persons affected with epilepsy are generally of the strumous diathesis. Dr. Thomson stated, that he considered in this case the spinal cord to be the seat of the disease, and that the motor tract was principally affected, although the sensitive may also have been secondarily implicated, as evidenced in the pain in the back, the arm, and the legs. The patient herself being of an excitable, nervous, anxious disposition, the report of her mother's death would be most likely to be followed by the epileptic fits.

Epilepsy is generally described as being of two kinds; idiopathic or true, and sympathetic. Now, in true epilepsy, the attack is ushered in by a peculiar scream; consciousness is entirely lost, and the patient becomes comatose and froths at the mouth. None of which symptoms occurred in this case. But we had moaning, with perfect consciousness, twitching, and working of the eyelids, hands, and wrists; and after the fit a defect of power in the extensors of the right side, with pain in the head, back, and limbs.

Taking into consideration, then, the symptoms and the cause of the attack, with the excitable nature of the patient, together with the absence of any organic lesion either of the brain or spinal cord, Dr. Thomson classed this with sympathetic epilepsy, and of the species termed *epilepsia uterina*. It might be taken for a case of hysteria simulating epilepsy; but the heat of the head, and the general condition of the patient, pointed out its connection with epilepsy.

In the treatment we had two indications to fulfil. First, to allay irritation and to restore the tone of the system; and secondly, to prevent the recurrence of the convulsions which so materially tend to produce general derangement of the system. And in true epilepsy we occasionally see them terminate in insanity or organic derangements, or even death; although no such result was to be anticipated in this case, which might be termed *subacute* or *false epilepsy*.

On the admission of the patient Dr. Thomson did not see her, and he considers

that perhaps the cupping might have been dispensed with; for where we have great debility, and corresponding susceptibility of impression, depleting measures could only tend to keep up and increase the existing irritability. When Dr. Thomson saw her, he thought the grand object was to afford tone to the system, and to allay the irritability; with this view he ordered the extract of cannabis sativa as an antispasmodic, with oxide of zinc and other tonics. The efficacy of the hemp in nervous and tetanic convulsions is now well known. He censured himself for having ordered a blister to be dressed with hydrochlorate of morphia, for since the affection did not depend upon the brain, instead of being beneficial it would rather tend to increase the disease; and this was found to be the case, for the patient became worse, the head hot and painful, and recourse was obliged to be had to shaving the scalp and cupping the nape of the neck, to relieve the distressing symptoms.

From this time the improvement was rapid and well marked.

The influence of the medicine, again, confirms the inference as to the seat and nature of the disease; for had the brain been the part affected, the extract of cannabis would no doubt have produced violent symptoms.

Another grand object in the treatment of these cases is to keep up the confidence of the patient in the hopes of perfect recovery.

Dr. Thomson intends the future treatment to be directed to restoring tone to the system by steel, disulphate of quina, ext. taraxicum, &c. with moderate exercise in the open air and tonic regimen.

## Selections from Journals.

### PHARMACEUTICAL CHEMISTRY.

#### ON AMORPHOUS QUININE AS IT EXISTS IN THE SUBSTANCE KNOWN IN COMMERCE AS QUINOIDINE. BY BARON LIEBIG.

In the preparation of sulphate of quinine, after all the crystals which can be obtained are separated, a dark-coloured mother-liquid remains, having an extremely bitter taste. On the addition of an alkaline carbonate, this liquid loses its colour and bitter taste, depositing, at the same time, a yellowish-white or brownish precipitate, which, after being rinsed with water, and exposed to a gentle heat, agglutinates into a coherent mass, exhibiting the appearance of resin.

From the experiments of Sertuerner, Thiele, Bucholz junior, Koch, and other chemists, it has been long known that this resinous substance possesses the properties of a base, that it neutralizes acids perfectly; but the salts which are formed by these combinations with acids, have baffled all attempts at crystallization.

Sertuerner, who was the first chemist to separate this resinous substance from the mother-liquor of sulphate of quinine, considered it to be a distinct and peculiar organic base, existing in yellow and red cinchona barks, associated with quinine and cinchonine. He assigned to this, as he supposed, new substance, the name quinoidine, and greatly extolled its medicinal efficacy, in which he declared it was in all respects equal to quinine. He terms it "a true fever-destroyer."

Subsequently, this substance, under the term quinoidine, has been employed medicinally in many places, and even introduced into the list of commercial articles or price currents of many of the druggists of Germany.

In certain mother-liquors of quinine left in the preparation of the sulphate, which were analyzed by Henry and Delondre, and also a sample of quinoidine examined by Geiger, these able chemists discovered an amount of quinine and cinchonine, accompanied by a resinous substance which they considered impeded the crystallization of the sulphates of the two bases, and which in their experiments they failed to separate. The results obtained by these chemists, and the inferences obviously deducible from these results, rendered it indubitable that the medicinal efficacy of quinoidine must vary according to the greater or less proportion of quinine it may happen to contain. Now, there cannot be a doubt that this uncertainty with respect to the relative amount of quinine in commercial quinoidine, has prevented many physicians from prescribing the latter as a remedy, notwithstanding the testimony borne to its efficacy.

[Having procured various samples of commercial quinoidine, the professor proceeded to examine them.] They were partly in irregularly-shaped masses, and partly in square cakes of a darker or lighter brown colour, which, by the warmth of the hand, became soft and flexible, but were readily pulverizable in the cold. The operation of powdering the substance imparted to it an extraordinary degree of elasticity. All these samples were completely insoluble in cold water, but scantily soluble in hot water, imparting to the latter a strongly bitter taste. I may here, however, observe, in passing, that some commercial specimens which I have since seen are soluble in cold water, arising from a considerable admixture of other substances; differing also, from the

same cause, in many of the following properties :—

All the first samples I speak of dissolved in alcohol, in the proportion of one part to two of the menstruum; and from this alcoholic solution, water precipitates copious yellowish-white resinous flakes, which cohere into a mass like the original quinoidine. Dilute mineral acids, as well as most of the organic acids, dissolved my samples entirely, and by adding a sufficient amount of the substance, became completely neutralized. From these solutions in acids, ammonia and alkaline carbonates precipitated resinous flakes. On agitating the fluid containing these flakes and the flocculent precipitate, with an equal volume of ether, the precipitate dissolves in the ether, with the exception of a dark-brown residue. On evaporating the ether, a resinous mass is obtained, having all the properties of an organic alkaloid.

Its salts are precipitated by tannic acid. Chloride of platinum produces in its solution in hydrochloric acid a yellow precipitate. Moreover, it dissolves completely in a solution of sulphate of copper, with the separation of oxide of copper. Now, there exists no resin, nor, indeed, any other substance similar to resin, which possesses this peculiar property.

These observations can leave no doubt whatever as to the chemical character of a considerable proportion of the residue to which the term quinoidine has been applied—namely, that it is a true organic base.

On subjecting the purified substance to elementary analysis (a full detail of which is given in the paper), the results prove, beyond a doubt, that the uncrystalline substance derived from quinoidine bears exactly the same relation to ordinary quinine that uncrystalline sugar (barley-sugar) bears to crystalline (sugar-candy). Both yield the same products of decomposition; both have the same atomic weight, and identically the same composition; they differ only in form: in one word, the one is crystalline, and the other amorphous.

I deem this to be an important discovery, when we consider the high price of quinine, the possibility of a check to the supply of cinchona bark from the countries producing it, and the amount of the crude quinoidine which has accumulated since the manufacture of sulphate of quinine was commenced. Quinine, indeed, seems to be absolutely indispensable for the treatment of diseases; the progress of civilization in modern times has depended, far more than has been conceived, upon the discovery of a remedy for the fevers which prevail where tillage is imperfect, and in new and unbroken soils.

This chemical investigation has thrown an interesting light upon the testimonies borne to the efficacy of quinoidine in the treatment of fever, and the highest encomiums have been passed upon it; but the commercial specimens have differed very much in value; while some have consisted nearly altogether of amorphous quinine, others have contained only a small per centage.

It is necessary that the amorphous quinine should be separated from all admixtures and impurities, and prescribed in its pure state. There can be no doubt that the same substance will produce the same effect on the animal organism, whether exhibited in a crystalline or an amorphous state. The system, as we may say, makes no difference in such a case. As I have already observed, the mystery about quinoidine is completely solved by the discovery, that it usually contains a very large per centage of pure quinine in an amorphous state.

In a commercial point of view, it is certainly a matter of great importance that we should be able to judge by the mere external appearance of a remedy, of its purity; and consequently, how far we may rely upon its efficacy. This is thought to be the case with the crystalline sulphate of quinine, whilst the non-crystalline from of quinoidine has probably led to a disregard of the evidence for its usefulness, even more than the fact of its being, as usually sold, an admixture of various substances. But with respect to the mere amorphous form, when the quinine is separated from all its adhering impurities, it is in the same case with opium, castor, and many more of the most efficient remedies which we possess, particularly with the extracts of our Pharmacopœias. It is necessary to be assured of their purity before we employ them, but their amorphous form does not prevent their use. In many of these cases, indeed, having no direct or ready way of testing them, we rely solely upon the honourable character of the merchant and dealer; but we have a completely satisfactory test for the purity of amorphous quinine. Few medicinal agents afford so ready a means of distinguishing them, and detecting admixtures, as the organic alkaloids; but if these tests are not employed, it is as easy to be deceived in purchasing crystalline sulphate of quinine, as the amorphous.

Amorphous quinine is completely soluble in dilute sulphuric acid, and in alcohol, as I have said above; it is also completely soluble in a solution of sulphate of copper, with separation of oxide of copper. And if its solution in a dilute acid yields, upon precipitation by means of ammonia, *exactly the same amount of precipitate as the weight of the substance originally dissolved in the acid*, there can be no doubt remaining as to the perfect purity of the sample under examination.

It only remains for me to observe, that no dependence should be placed upon the ordi-

nary quinoidine of commerce. As I have already stated, some samples which I have seen, dissolve incompletely in water, forming a dark-brown muddy fluid; these have been probably produced by simply evaporating the mother-liquors of sulphate of quinine to dryness. They are therefore uncertain mixtures of various substances with sulphate of amorphous quinine, with or without excess of acid; so that in purchasing such specimens, the buyer is paying the price of an organic alkaloid for sulphuric acid, &c. The pure amorphous quinine should be separated, and it would then form a most valuable remedial agent; but the prescriber must be assured of its purity, and the test I have given will suffice for this purpose.—*Lancet*, May 23.

*** The cost of disulphate of quinine has been a great obstacle to its employment, and a frequent cause of its adulteration with salicine, and other compounds. Practitioners have it now in their power to employ quinine under the cheaper form of quinoidine. The method suggested by Liebig for determining the purity of quinoidine is so very simple that there can be no difficulty in applying it. No inferences should be drawn relative to the medicinal powers of quinoidine, until it has been thus tested.

## THERAPEUTICS.

### USE OF THE BROMIDE OF POTASSIUM IN SECONDARY SYPHILIS.

The low price of the bromide compared with that of the iodide of potassium, has induced M. Ricord to substitute that salt for the iodide in the treatment of secondary syphilitic affections. The dose of the bromide is the same as that of the iodide of potassium. It has produced the same therapeutical effects, but more slowly.—*Journal de Pharmacie*, Avril 1846.

## MICROSCOPICAL PATHOLOGY.

### ON SPERMATOZOA IN THE FLUID OF HYDROCELE.

In the last volume of the Medical Gazette* were translated some remarks by Heller, to the effect that he had never been able to detect the presence of spermatozoa in the fluid of hydrocele, and that, in the cases in which these animalcules had been stated to have been found, the probability is that their presence must be ascribed to the escape of a small quantity of the seminal secretion through accidental puncture of the tunica vaginalis during the operation for evacuating the fluid.

Induced to examine the subject afresh, by a communication from Dr. Höfle,† who stated, that out of twelve cases of hydrocele he had found spermatozoa in the fluid five times, Heller has at length succeeded in detecting these animalcules in a case of hydrocele in which there could be no suspicion of the tunica vaginalis having been punctured, for the fluid was carefully removed by incision. He therefore withdraws his former statement as to the mechanical cause inducing the occurrence of spermatozoa in the fluid of hydrocele*.

* Page 437.

† Heller's Archiv für Chimie und Microscopie, vol. ii. p. 268.

## Medical Intelligence.

### THE SOUTH LONDON DISPENSARY.

The subscribers to this Institution celebrated their annual festival on the 21st instant, at the London Tavern, Bishopgate Street. The company consisted of about sixty gentlemen. Mr. E. Antrobus, M.P. presided. Amongst those present were Mr. Kemble, M.P., and Mr. T. Hawes, with other friends of the institution. The usual loyal and appropriate toasts and healths were drunk with the honours, and the chairman and several other gentlemen addressed the meeting. The subscriptions amounted to nearly £300. The address, drawn up by Mr. J. Meymott, the secretary, states that more than 25,000 patients have been relieved since the establishment of the dispensary, and 4,323 within the year ending Christmas 1843; and, calculating from the five months subsequent to that period, the annual number relieved to Christmas 1844 will be upwards of 5,000. The great increase of population in the districts in the centre of which this institution is established, has greatly increased the demands upon it for relief, and, consequently, the funds have had heavy expenses to defray.

### KING'S COLLEGE HOSPITAL.

The annual festival in commemoration of the establishment of this hospital, and to receive subsrciptions in aid of the funds by which it is supported, was celebrated on Saturday last in the great hall of the Freemasons' Tavern. The chair was taken shortly after 6 o'clock by the Earl of Eldon, supported by a very numerous company of gentlemen, amongst whom were some of the professors of the College, and many connected with the medical profession. The loyal and patriotic toasts having been honoured by the company, the chairman gave the toast "Success to the Hospital," which was received with great cheering. His Lordship then went into a history of the institution, the manner in which it had been carried out, the benefits it had conferred, and the excellence of its economy; and concluded by calling on

* Archiv, vol. ii. p. 334.

the company to be liberal in the support they were about to afford to it. The amount of subscriptions was understood to exceed 1,000*l*. From the printed report it appears that a great deal of good has been effected by the establishment of this hospital. During the last year, 1845, 1,266 patients were received within the hospital, besides a vast number of out-patients relieved.

### THE SURREY DISPENSARY.

The friends and supporters of this very useful institution dined together, on Monday last, at the Bridge House Hotel, London Bridge. The Lord Mayor presided, and was supported by the High Sheriff of the County, the High Bailiff of Southwark, Mr. Kemble, M.P., Mr. R. Baggalay, treasurer of St. Thomas's Hospital, Mr. C. A. Young, and a numerous party of governors of the charity. Prosperity to the Surrey Dispensary, and various other appropriate toasts, were given and duly acknowledged. In the course of the evening two reports were read by the secretary, the result of which showed an amount of £354. 12s. collected by subscription on behalf of the funds of the Institution. It appears that these funds are at present in rather a sinking state, there being a deficiency on the past year of £506. 16s. 9d. and it was to make up this arrear that the committee of management directed their efforts. From the medical report of the year, a fair idea may be formed of the character and usefulness of the Institution. By that report it is stated, that 5,646 patients have been admitted to the benefits of the charity during the year, and of these 4,504 have been cured, 154 have been relieved, 216 have gone into hospitals, or the country, or been discharged for irregularity, 122 have died, and there are 650 remaining under cure. In 1,975 cases the patients have been attended at their own houses, and 508 were midwifery cases. The average daily attendance at the Dispensary for medicines, &c. is 200. This was the 69th anniversary of the Charity.

### FEVER IN ASHTON-UNDER-LINE.

Typhus and other kinds of fever continue to rage in various parts of this town, but principally in the worst drained and worst ventilated districts. We are credibly informed, that where there is one case in those parts of the neighbourhood which is sewered, ventilated, &c., there are ten in the places which are not. Every attempt is being made to stop its ravages, by whitewashing and sprinkling with chloride of lime, &c.—*Manchester Examiner.*

### GLANDERS IN THE HUMAN SUBJECT.

The Irish papers report a case of this frightful disease which has recently occurred at Navan. The patient was a boy named Christopher Clarke, of Rathconne, about 17 years old, who caught the disease from a glandered horse belonging to his father, which he cared and attended. The infection was received by the boy through a slight cut on one of his fingers. He was brought to the County of Meath Infirmary, at Navan, where death ended his sufferings on last Thursday week.

### GIESSEN DEGREES.

According to an announcement lately made by Dr. G. B. Wilbrandt, the Faculty of the University of Giessen have passed a resolution, that henceforth the degree of Doctor of Medicine shall be granted only to those foreigners who have undergone the regular University examinations.

### A MEDICAL VIEW OF THE FINE ARTS.

Among the novelties presented to its readers by one of the French medical journals, is that of giving a critical catalogue of all those pictures, in the annual Parisian exhibition, which have any bearing upon medicine or the subjects of medical science. The last number of the *Gazette des Hôpitaux* contains an amusing record, in the shape of medical criticism, on the works of certain French artists; and the writer does not fail to point out their defects in an anatomical, pathological, and medico-legal point of view. This may be a serviceable hint to those English journalists who are obliged, apparently with great reluctance, to fill their pages with weekly abstracts of original papers which have already appeared in other English medical journals.

### FREE TRADE IN POISONS.

Some cases of poisoning have been lately brought to light in Norfolk, which tend to shew the bad effects of the present system of allowing a free trade in poisons. An aged couple had three married daughters, with families, and the sudden deaths of some of the grand-children gave rise to a suspicion that they had been killed by poison. Three years ago, an infant, aged nine weeks, died suddenly; last September, a son of the same parents died under precisely similar circumstances. In three months afterwards, the grandmother and mother died, and on the 20th ult. they were followed by the grandfather. The bodies of the grandfather, grandmother, and three of the children were disinterred, and an inquisition has been recently held. The medical evidence shewed clearly that the deceased persons had died from arsenic, and the circumstances rather tended to throw suspicion upon the aged grandfather, who had himself fallen a victim to the action of the poison. The facts proved in evidence plainly establish that every facility is given to the poor and ignorant to procure this deadly substance. We have lately heard of a similar series of cases which have occurred

in another part of England; and, on the disinterment of the bodies, it was found that the deceased persons had died from arsenic.

The frequent occurrence of such cases proves, that not only should the sale of poisons be placed under particular restrictions, but that a "medical officer of health" is wanted in rural districts, in order to examine more closely into the *causes* of death. In the meantime, if those who retailed arsenic or corrosive sublimate to the poor, would mix a few grains of powdered ferrocyanide of potassium and sulphate of iron or copper with the poison, many cases of accidental and homicidal poisoning might be prevented, by the production of a deep blue or red colour on contact with water or liquids. The admixture of these salts with poisons could not interfere with any lawful use to which the poor might require to put them.

We have ascertained by experiment, that if five grains of green sulphate of iron and ten grains of ferrocyanide of potassium (both finely powdered) be mixed with *one drachm* of powdered arsenious acid, the mixture is white, with a faint tint of blue becoming slowly deeper. If this powder, or a small portion of it, be added to water, and well mixed, the liquid acquires a blue colour which deepens by exposure. The change of colour is more rapid in hot liquids. In all liquids containing tannin, such as tea, a black colour would speedily appear: in infusions not containing tannin, the colour would be more or less green, from the fact that such infusions of organic matter generally have a yellow tint. Sulphate of copper substituted for sulphate of iron, in the proportion of six grains to an equal quantity of ferrocyanide of potassium, produced a red colour when the powder was added to a liquid. In many cases tea, milk, or gruel, is employed as the menstruum for arsenic; and if the poison were mixed with small portions of these salts, as above suggested, suspicion would probably be excited, and the life of the individual saved. We would advise druggists who are in the habit of retailing poisons, to adopt some expedient of this kind.

### MAGNESIA AN ANTIDOTE TO ARSENIC.

M. Bussy has lately revived the use of magnesia as an antidote in cases of arsenical poisoning. He has communicated his views to the Academy of Sciences in the following conclusions:—

1. Purified animal charcoal, which has been recently recommended as an antidote, has no power of counteracting the effects of arsenic.

2. Pure magnesia, slightly calcined, easily absorbs arsenious acid in solution, and forms with it a compound which is quite insoluble even in boiling water.

3. That in a gelatinous (hydrated) state, it absorbs the poison with still greater rapidity.

4. That animals to which arsenic had been administered, invariably recovered when sufficient doses of magnesia had been given to them.

5. That this antidote is superior to all others at present known, inasmuch as it may be met with in the shops of all druggists,—as it readily and perfectly neutralizes the poison, as it may be administered in large doses without inconvenience, and its general therapeutical effects answer the indications required for the treatment of this form of poisoning.

6. That magnesia decomposes tartar emetic, the salts of copper, and corrosive sublimate; and there is reason to believe that it may be employed successfully, not merely in the treatment of these forms of poisoning, but in all cases where metallic poisons have been taken.

7. That the salts of the organic alkaloids, morphia, strychnia, &c., being equally decomposed by magnesia, this substance, by precipitating the alkaloid, may have the effect of preventing or retarding the absorption of these poisons. M. Bussy intends to make this a subject for future investigation.—*Gaz. Medicale*, Mai 23.

*** There is no novelty in M. Bussy's suggestion. Mr. Hume long ago proposed magnesia as an antidote in poisoning by arsenic; but it is now well known that this alkali has no chemical action on *powdered* arsenic—the form in which the poison is commonly swallowed. Its power of absorbing and combining with arsenious acid when dissolved in water is therefore irrelevant in a practical point of view. If it have any action on the poison in a powdered state, it can only be of a mechanical nature, *i. e.*, by investing the particles of the poison, and in this respect it is not likely to be superior to common charcoal. Its action on an aqueous *solution* of arsenious acid we have found to be so feeble, as not to justify the inference that it acts as an antidote. One grain and a half of arsenious acid, perfectly dissolved in water, was digested with thirty grains of pure magnesia, which had not been calcined at a high temperature. The mixture was well shaken with distilled water for a quarter of an hour, and then filtered. The solution had lost its acid re-action, and was feebly alkaline. On boiling it, it became turbid from the precipitation of arsenite of magnesia (?) In the clear filtered liquid, arsenic was abundantly detected by all the usual tests. We cannot, therefore, at all agree in the fifth conclusion drawn by M. Bussy.

### CONVICTION OF M. RASPAIL FOR THE ILLEGAL PRACTICE OF MEDICINE.

In our last number we announced that M. Raspail had been summoned before the Correctional tribunal of Paris for the illegal practice of medicine. The *Gazette Mèdicale* (Mai 23) contains a full account of the proceedings. The accused, who is a chemist, professes to have discovered a new method of hygienic treatment. In order to make his plan well known, as he had no license to practise, he associated himself with a M. Cottereau, a graduate of medicine. The Medical Association of Paris, suspecting that this alliance was intended by M. Raspail merely to cover his own legal incompetency, instituted proceedings against him, on the ground that he dictated the prescriptions to M. Collereau, and employed that gentleman merely to affix his signature to them, in order to give them legal validity; in other words, that he secretly practised medicine contrary to law.

In his defence, M. Raspail contended that he had not given medical advice, gratuitously or otherwise, but he had merely attended M. Cottereau's consultations for his own benefit and instruction! Some witnesses were then called, one of whom, a chemist, proved that the prescriptions were always signed by M. Cottereau; another, that the rooms were hired in the name of M. Cottereau, and that M. Raspail only came to the house occasionally. Other witnesses deposed to facts which left no doubt that the accused had been consulted by them, and that he had given medical advice to, and prescribed for them, although the prescriptions were invariably signed by M. Cottereau.

M. Raspail, who defended himself with all the ingenuity of a special pleader, could not "struggle" (to use an Old Bailey term) against this evidence. M. Orfila, Dean of the Faculty of Medicine, was then called, at the request of the accused. M. Raspail began by attacking, through this witness, the Medical Association of Paris, and protested against its right to bring this charge against him.

M. Orfila thereupon entered into a very full statement of the objects of the Association, and the good which had been already wrought by it. It consisted of 450 physicians, including the most eminent in the profession; and the great object of the Association was to put down quackery and illegal practice. M. Raspail, who was neither a physician nor a pharmaceutist, and who had been practising medicine contrary to law, was prosecuted by the Attorney-General at the instigation of this Association. From the circumstances in which he had been placed with M. Raspail on other occasions, he declined to act as president of the meeting at which the proposition to prosecute the accused was made. M. Fouquier signed the letter addressed to the Attorney-General on the subject, and yet, continues M. Orfila, M. Raspail calls me *his accuser!* The letter was read, and M. Orfila then declared that he had only a few words more to say:—"That as M. Raspail had denounced him as his accuser, when it was his desire to absent himself from the debate, he had to express his great regret that he had not presided on the occasion, and signed the letter, of which he did not hesitate to take upon himself all the responsibility.

*M. Raspail.*—After M. Fouquier had seen the Judge, did he not advise that the prosecution should be abandoned?—and did you not insist that it should go on?

*M. Orfila.*—I have never had any conversation with M. Fouquier on the subject.

*M. Raspail.*—I maintain to the contrary.

*M. Orfila.*—It is the first time in my life that I have ever had the lie given to me.

The President then interfered, and the Attorney-General called for the infliction of a fine upon the accused, as he had no right to practise as a physician. After hearing his defence, the Court condemned him to pay a fine of 12s. 6d.!

### AUSTRIAN RHUBARB.

The *Gazette des Hôpitaux* reports that rhubarb is now extensively cultivated at Brunn, in the Austrian dominions, and that large quantities of the root are annually exported to other countries.

### THERAPEUTIC PROPERTIES OF GUANO.

M. Peixoto is stated to have just discovered a method of curing leprosy, which is a very common disease in Mexico. His plan consists in employing guano, internally and externally, under certain hygienic precautions. Seven leprous patients thus treated are reported to have been speedily cured.

### ABSENCE OF THE SPLEEN.

The Gazette Médicale reports, on the authority of a German journal, a case, in which Dr. Meinhard, of St. Petersburg, while engaged in inspecting the body of a female, could find no trace of a spleen or of splenic vessels.

### OBITUARY.

Died lately in Paris, at the age of 79, M. le Baron Barbier, principal surgeon and professor at the Val de Grâce, member of the Academy of Medicine, and knight of the Legion of Honour.

On the 19th of March last, at Rio Janeiro, aged 28, Alexander G. Cumming, M.D. son of the late John Cumming, Esq. banker, Forres, North Britain.

## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

FRIDAY, *May* 22.—R. S. Tate.—T. Brown.—J. Wright.—W. Deeble.—S. Gibbons.—A. C. Gibson.—G. King.—A. J. J. Chitty.—J. G. Bailey.—T. Devlin.—J. Dwyer.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *May* 21.—Robert Smith Jeffs.—Robert Nichol, India.—Peter Thomas Gunning, Iron Acton, near Bristol.—Frederick Collins, Leyton, Essex.—John Gathergood, St. John's, Lynn.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, May* 16.

| BIRTHS. | | DEATHS. | | *Aver. of* 5 *yrs.* | |
|---|---|---|---|---|---|
| Males.... | 691 | Males.... | 441 | Males.... | 493 |
| Females . | 704 | Females . | 397 | Females . | 475 |
| | 1395 | | 838 | | 968 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts*, 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 125 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 159 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London .....(Pop. 374,759) | 145 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar .....Pop. 393,247) | 180 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich .....(Pop. 479,469) | 229 |
| Total ..... | 838 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Springs; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 838 | 892 | 968 |
| SPECIFIED CAUSES ..... | 837 | 886 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 121 | 162 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 89 | 98 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 152 | 155 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 246 | 271 | 294 |
| 5. Heart and Blood-vessels ..... | 31 | 26 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 81 | 65 | 72 |
| 7. Diseases of the Kidneys, &c.. | 13 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 6 | 9 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 10 | 6 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 1 | 1 | 2 |
| 11. Old Age..... | 38 | 60 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 49 | 25 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 5 | Convulsions .... | 30 |
| Measles ..... | 16 | | |
| Scarlatina ..... | 15 | Bronchitis ..... | 36 |
| Hooping-cough.. | 42 | Pneumonia..... | 54 |
| Typhus ..... | 25 | Phthisis .....120 | |
| | | Dis. of Lungs, &c. | 7 |
| Dropsy..... | 5 | Teething..... | 8 |
| Sudden deaths .. | 11 | Dis. Stomach, &c. | 7 |
| | | Dis. of Liver, &c. | 10 |
| Hydrocephalus .. | 30 | | |
| Apoplexy..... | 27 | Childbirth ..... | 5 |
| Paralysis..... | 18 | Dis. of Uterus, &c. | 1 |

REMARKS.—The total number of deaths was 54 below the vernal and 130 below the annual average. The deaths from Zymotic diseases, with the exception of hooping-cough, are much below the averages. In all the districts, the mortality was below the average.

## METEOROLOGICAL SUMMARY.

Mean Height of Barometer .....29·73
„ „ Thermometer[a].....51·8
Self-registering do.[b] ..... max. 94° min. 27·5
„ in the Thames water. — 60·5 — 57°

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·8: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was 2·2° below that of the mean temperature of the month (54°). The extreme hebdomadal range in the self-registering thermometer was 66·5°.

## NOTICES TO CORRESPONDENTS.

*Case of Poisoning with Strychnia.*—In reference to the case of poisoning with strychnia reported in our last number (p. 926), Mr. Evans has furnished us with some additional particulars, which leave no doubt that strychnia was the poison taken. He has also forwarded a portion of the poison, which, on being submitted to analysis, was found to be strychnia, mixed, as it usually is, with brucia.

We shall be glad to hear again from Mr. S. Lowe.

F. W.—Scurrility and anonymous personal attacks, whether directed against physicians, surgeons, or general practitioners, are not suited to our pages.

There can be no doubt that Dr. Laycock is quite correct in his view of the rights, privileges, and professional standing of the *extra* licentiates of the College of Physicians. The public knows no difference between intra and extra licentiates, and the profession knows that what difference exists, is purely of a technical kind. Nothing can be more illiberal than for an *intra* to attempt to gain an advantage over an *extra* licentiate upon the absurd ground of a difference in grade.

Mr. J. Roberton.—The subject referred to by our correspondent shall receive attention.

Mr. J. C. Evans.—The case forwarded shall, if possible, be inserted in next week's number.

We are not acquainted with any book on Entomology which will answer the purpose of J. N. A. Our correspondent will find a good Introduction to Entomology in the Naturalist's Library; and a full account of the Natural History and Physiology of the Insect Tribe in three volumes of the Library of Entertaining Knowledge. There are, besides, the elaborate Introduction to Entomology, by Kirby and Spence; and the Introduction to the Modern Classification of Insects, by J. O. Westwood.

Mr. J. Higginbottom's letter has been received.

ERRATUM.—A somewhat absurd typographical error escaped correction in our last number. At page 929, col. 2, line 24, in reference to the mode of remunerating medical practitioners in Syria, the words "washing depletion," &c. should be "washing *depilation*." We should be sorry to be the means of circulating a report that part of the system of remunerating medical practitioners in that medically destitute quarter, is by causing them to undergo *depletion!*

## Lectures.

A COURSE OF LECTURES ON

# ELECTRICITY AND MAGNETISM,

*Delivered at the Royal Institution,*

BY PROF. FARADAY, D.C.L., F.R.S., &c.

### LECTURE I.—April 25, 1846.

*The power of* GRAVITATION: *measurement of the power; change of state in bodies—ice, water, and steam—gravitation of gases; carbonic acid.* HEAT: *expansion and contraction; differs from gravitation; heat and cold produced from the same substances; generation of heat; cause of its production by friction inexplicable.* ELECTRICITY: *how produced; overcomes gravitation; attraction and repulsion; the one converted to the other; transference of electricity; Schönbein's electrical paper; electrical machines; duality of electrical force; resinous and vitreous electricity.*

I AM not quite sure whether I have been wise in the selection I have made of the subject of this course of lectures, inasmuch as in making that selection I have resolved to give you views and experiments dependent on the exhibition of the properties of matter. I have trusted so far to your intelligence, and desire to exercise it, as to depend more upon that, than the amusement or pleasure you may have in observing the phenomena. I do not think I have any right to insult you by supposing that I have made a mistake, yet I can hardly help feeling that I am touching on delicate ground. The properties which belong to matter depend upon the power with which the Creator has gifted such matter. It is upon certain of these powers that I am about to dwell,—not so much upon the properties of matter, although these will come in exemplification of the powers themselves. I am speaking to the higher point. I am taking you a little into the depths of our establishment, into the corners where we first investigate things, rather than the lecture room, where things are clearly demonstrated by experiment.

Now, in order to carry you with me, I must beg your close attention to some points which may seem very common-place in the outset, yet you will find them important to a view of the whole subject, since it is impossible to obtain a view of the more complicated forms of matter unless you are acquainted with it in its simpler forms. The phenomena presented are such that every one may understand them at first sight. I shall proceed with one or two of the simpler powers, not because they are so in themselves, but because we are more familiar with them. We know nothing of their origin—we examine the effects, but how they are united to matter we cannot tell.

However, I will endeavour to lead you on, quietly and slowly, by two or three observations. There is first that kind of power which belongs to the simplest possible phenomena,—I mean the power of gravitation. *Gravitation* was, no doubt, a learned word in the olden times, but it has now become a part of our common language, so that all persons understand what it means. All things are heavy, and all things will fall towards the earth if allowed so to do, and this is the effect of the first power I shall consider—*gravitation.* In order to give you a few of the points with regard to gravitation, and so to go on to those forces to which I wish to direct your attention, I will take some simple means of illustrating the power of gravitation. I have here a spring, which it is well-known preserves a certain form by its elasticity. If I hold it up in this direction, and the lower part gravitates, and the spring lengthens, it is owing to the weight of the mass. If I attach a little scale-pan to the spring, and then put any gravitating substance into it, we shall obtain a certain measure of this particular force by the lengthening of the spring; and although I take no pains to obtain the measurement, yet if I arrange some standard in any way so as to give you any notion of it by placing it on the same level—for instance, this bottle, you will find that the weight placed in the scale will disturb the elasticity. By merely putting this in, the spring is expanded, that is to say a certain force is exerted which is able to overcome a certain amount of elasticity in the spring. The spring is stretched: if I put in a greater weight, I stretch it still farther, and the power which has drawn the spring is the measure of the gravitating force of these portions of matter towards the earth.

You see, by these rough experiments, that the more matter I take the more the scale is depressed. The more matter I add to it, the more I add to the gravitating force. These facts, simple as they are, are most important to us in considering the corresponding forces of electricity and magnetism. This, then, is the power of attraction; these weights go in a direction towards the earth by the power of attraction excited by the earth, and if you will imagine, what may be a reality, that some person on the other side of the earth is making the same experiments which we are performing here, the matter with which they are experimenting is coming towards us, *i. e.* it is attracted upwards, while this mass is attracted downwards towards those who are below us. Here, then

you have a proof of the existence of a remarkable power—a power simple in its nature—a power of attraction which is universal.

If I take a piece of marble and let it fall, it goes towards the earth by the power of gravitation; but precisely the same effect, as to power, is being produced, and the same force is exerted, while the marble is lying on the table. Therefore, as regards any of these substances taken at random, they all show this wonderful and beautiful power of attraction, which holds all things together, if they be together, or makes them approach each other if they be free, and it is a force which never varies in its amount.

I will now point out a little further the consequences of these conditions. I will take a portion of matter that is capable of changing its form. First of all, here is water in a bottle: here it is as a solid body or ice; and here it is becoming steam; and there is some water as a liquid below. That portion which is sufficiently heated, by the lamp burning beneath it, is becoming converted into steam: so that we have in water these three forms, the only forms of matter. The steam is 1,300 or 1,400 times more voluminous than the water from which it is produced. But you cannot vary the attractive force, though you may vary the form, and make it solid, fluid, or gaseous. If I take a portion of water and freeze it, it will affect the spring as much as in the liquid state. If I boil it and convert it into steam as pure as air, that same substance is attracted with neither more nor less force to the earth. So that changing the condition of matter does not change the condition of this particular power of attraction to which I am now calling your attention.

Besides this sort of change, that is, the change of form—not a change in substance, chemically speaking—we can produce other changes: for instance, this very marble, of which we have been speaking, the chemist has the power to alter, and make it other than it is. It is even possible to liquefy or vaporise it—a fact which has been established by the experiments of Sir James Hall; but a chemist can go further, and decompose it. Here are some portions of the same marble. If I put a little acid into this jar, I shall decompose the marble and resolve it into two other substances of which the marble may be considered a compound. One of these substances is attenuated like the steam of water. There are now vapours rising up from beneath, and rising as much here as in the flask of water. There are the same bubbles, the same attenuation of the substances, and a component part of the stone is passing into the air. I have no right to leave you deficient in any of the facts that may help you to pursue inquiries of this kind. If I take a lighted taper I can detect the gas and demonstrate its existence. You observe that the jar is full up to this height, because the taper is extinguished at this level. I have now changed the stone into two substances; one is a gas, and the other is combined with the acid I used; and although it is much altered, and many of its properties are changed with many of its forces, yet I have not, in the slightest degree, affected the force of gravitation on the particles of matter. We have altered its condition as regards heat and electricity, as regards almost every other power, its cohesion and molecular properties; but with regard to the first simple force—gravitation, there is not the slightest change; for the gas that has gone off, and the part that remains behind, tend to descend to the earth, or are attracted by the same power, and in the same degree, as they were before. You perceive that the gas, mobile as it is, does gravitate, because we find it still in the jar; I can pour it into another jar, and from this on to the floor, and I have no doubt that plenty of this gaseous substance has been attracted to the ground, and has now gravitated to the floor. Experiments of this kind tend to impress the subject of gravitation on the mind, and I have had recourse to them in order to lead you on gradually to those powers which are of a more complicated character. I might, although I have no right now to enter upon it, demonstrate, that even in those cases where bodies are apparently going against attraction, that is to say rising into the air, the power of attraction never alters, but remains always the same.

So much for the consideration of this first and universal power of matter, which I must now leave for the present—although I may have hereafter to return to it—in order to point out the difference between this and other powers. I start from this point, that I may make you aware of the extraordinary manner in which the Creator has conferred this property on matter, so that it may serve our purposes.

I now take an entirely different force, in its kind, from that which I last employed, and of which this heated ball (of red-hot copper) presents you with a good illustration. I allude to the force or power which we call *Heat*. It happens, unfortunately, that although the philosophy of heat has, at particular times during its development, led to the use of different terms in our language by which our thoughts respecting phenomena are expressed, yet we have no plain and simple phrase, like that of gravitation, to express our views. But every one will understand me when I say that I am going to speak of a power which causes heat. That body before me has the property of making my hand hot. If I bring it near an apparatus like this (an air

thermometer), it will make the fluid rise; if I raise the heated body towards the part above, the fluid falls; and if I bring it still nearer, I get a more rapid effect. If I choose I can alter this, and produce a contrary result, by pouring a little ether on the bulb. The fluid now rises rapidly. I am making it colder than it was before.

What have we in this experiment? A source of power here which I was able to transfer and give to another body, and which made that body expand or alter its volume—for it is measured off by the fluid—and which power I can again take from that body as I have just now done.

This differs from gravitation, and differs in a most extraordinary degree in two points of view. In the first place, there is a power of increasing and diminishing, of adding to or taking away; which you have not in gravitation. Take this copper ball; I cannot add to or take from its gravitating force, I cannot make it heavier or lighter, or cause the earth to attract it with greater or less power: but I can give to it a second and more complicated force, and that to a great amount. I can transfer the power of heat to this body, and take it from it; so that we have the strange effect of being able to vary the force. This is far beyond any thing that occurs in gravitation. There the power is in a singular manner fixed and unchangeable; here I have the capability of giving or taking it from the body. Here is the first point in which the second force rises in complexity above gravitation.

But we have a condition far higher and more complex, because we are able to produce force—that is, to create it or bring it into existence. The lectures which you have attended here are so numerous, and you must be so well acquainted with the subject, that it is hardly necessary to point out what we are about to do; but I am about to bring into play chemical action, and not simply chemical action, but to create the force of heat. Here is a portion of cold water, from which we can generate heat. I am not now speaking of the transfer of heat to cold substances; that is not the condition to which I am now about to approach. If we take a ball of metal, and increase its heat, we have a mere transfer of power; but *this* is a case of the evolution, or the obtaining a quantity of heat from two cold bodies which did not before appear to contain it. We can do this to a degree that is extraordinary, inasmuch as we can not only evolve heat at pleasure, but obtain it from bodies that are the very opposite of heat. Heat and cold are conditions so different as to give a double effect in comparison with attraction. I think that heat and cold may be looked upon as more or less resembling gravitation in a degree, but we have the extraordinary power of making it appear and disappear, independently of the original source; a condition which raises its character in complexity above gravitation. Still, as you will find hereafter, heat is as low in its final condition, beneath magnetism and electricity, as it is above the simple power of gravitation.

I will now, in succession, evolve heat and cold from the same substances, and so give an extreme case, not merely of transferring power, but of actually developing or generating it. Here is some ice, and here some sulphuric acid. By putting these together, I shall soon evolve a considerable degree of heat; so much so, that these cold vessels and these cold preparations will fire phosphorus, and would soon burn my hand. I could, if I chose, go on so far to raise the heat as to fire sulphur; but strange to say, if I go on adding ice to the same acid in the same vessel, I shall produce cold, and not merely the cold of ice, but a degree far below it. All these facts can be accounted for. That I may shew the cold produced, I will freeze this vessel (a copper saucepan) to a wooden stool, and, as you well know, I cannot do it by putting into it ice alone, because I could not make the water outside colder than the ice within; I therefore produce cold outside by the action of the same substances which before produced heat—ice and sulphuric acid. It only wants a little time for the ice to dissolve to water, and the cold will then be so great as to convert the sheet of water which is outside, between the stool and the vessel, to ice; and this, by the use of the same substances which a few minutes ago gave out heat sufficient to ignite phosphorus. These circumstances, connected with the evolution and absorption of heat, are quite distinct from what is observed with respect to gravitation; and they give you an excellent idea of the means of producing and transferring this power.

Now in all these cases, although we thus seem to have a power of creating, of evolving, or producing heat, yet still we are able to follow, as it were, its course, by a close investigation of the condition of the substances; and by the application of certain laws which the philosopher has discovered, we are able to find it, although it does become latent in water as compared with ice, and by a peculiar process measure it where it has gone into a latent state,—observe where it appears, and always account for its quantity. There is no cause so obscure in the production of heat and in its absorption, that we are are not able to find it out, and ascertain that the heat is definite. So far, it comes to something like gravitation. In both cases the power is definite; in heat we are capable of transferring it from particle to particle, while gravitation, although

equally definite in quantity or force, is not transferable. There is only one case in which, so far as my observation goes, the power of tracing the source of heat escapes us, and that is in the common case of friction. You know that if any thing be rubbed it will become warm, and this is a cause of the production of heat which we cannot bring within the scope of reasoning, or of that theory which we account for the origin of heat.

Here are the stool and the saucepan now firmly frozen together by the action of the same substances that before produced a very high temperature.

I will next take you to *Electricity*, and here you will have occasion to apply your attention pretty closely, not merely for the sake of observing the curious difference between this power and the two former, and between its quality or character, as regards the power of transference and the power of evolution, but also still higher points, giving us a notion of there being two forces instead of one.

In this investigation of the general power of electricity, I shall take the simplest possible case, because it is to principles that I am anxious to confine your attention.

Now here are two or three bodies which will enable us, in the first place, to examine the simplest kind of electrical phenomena. I have here a portion of matter suspended by a thread, here a glass rod, and here a piece of silk with a mixture of mercury and tin upon it. These will enable us to examine electricity as it first presents itself to us. This piece of glass, when first taken from a quiescent state, and fairly treated, that is to say, not rubbed hastily, will have no power to disturb or affect that which I call the electrical indicator. If I pass my hand quietly over it, and then pass it once through this rubber, you will see how different are the effects. By rubbing it, the glass suddenly receives power to a great extent of affecting the paper ball which I have suspended before me. In this way the piece of glass acquires a power of attraction over this paper ball which it had not before, and which no other substance lying on the table possesses. This marble has no power of the kind, nor indeed has the glass, until the operation is performed of rubbing it on the silk, and then there comes out this strange and curious effect. By rubbing the glass the force is developed, but by passing my hand, which is rather damp, over it, I can remove the power from every part of the glass which contains it. The ordinary way is to breathe upon the glass and then rub it with silk, and it will generally be found, unless the glass be hot, that it has taken away every portion of the electricity. The power has nearly gone from the glass rod before me. Here we have a very peculiar condition; there is a power developed in the glass as there was in the red-hot ball, but we have it developed without any other change. As it respects the glass, there is no change in its gravity, there is no change in its state as to its being solid, there is no alteration in its form; it is neither hotter nor colder, it is not altered in its chemical condition; there is no change dependent on any thing but this peculiar power of attraction, and this is strong enough to overcome gravitation, and draw the ball out of its perpendicular to a great extent. The electric power is taken away by cold, damp, conducting substances. It is by no means a slight power. Beyond that, when we come to examine this power more carefully, we find a second effect, which very much indeed distinguishes this force, in its general principle, from heat or gravity; this can be shewn by a ball hung before me. In the former case it hung by a thread; here we have what may be called an indicator, gilded over, to remove any counteracting effects from inequalities of surface. Her you have attraction in the first instance. When excited with the rubber, a very strong attraction is shewn when the glass is brought near to it; but I can take away this power by passing my hand over the rod. Not only is there this attraction, but look at the action of that ball and this glass rod, and you find two conditions to which we have nothing similar in heat and gravitation. It does not now attract the ball (after contact), but repels it very forcibly. That which attracts one ball, repels the other;—how, then, is it we thus get this evolution of force, which attracts only in one case and not in another?

The mind is little prepared to expect repulsion. I can drive the ball about in a considerable degree, through the repulsive power which I have here brought out of the glass, from what was just now an attractive power. If I take it away, the repulsion will no longer exist. It is as easily done as the development of the attracting force. If I re-excite the rod, which I can do in a moment, I can change repulsion to attraction. Attraction now comes out most wonderfully and beautifully.

I am sure that you feel with me, that no matter how often you see these effects, you always view them as most wonderful. I can accumulate the power and use it in various ways, and by and by we will return to these experiments, and consider the origin of this force, and the power of attraction, and so get a true view of them. The next point to which I shall call your attention is the extraordinary way in which this power is developed in almost every thing. It is very true that everything gravitates, and we can

make everything hot and cold, and so far it is only in common with the forms of force which we call gravitation and heat; and these powers we can develope in everything. I can not merely get a portion of that power from another body to which we have given it, but we can, as I have said, develope it in almost everything, and in turn can make everything the agent to generate a force which will act on all other bodies.

Here is a piece of shellac; at present it is inefficient, now it has this attractive force, and if I take particles of paper or a portion of bran this power will come out to an extraordinary degree, and those particles which are now attracted to the earth by gravitation will very soon be made to fly about by the new force that is brought into action. You observe the distortion of this substance by looking at this ring of paper—you will see that is rendered elliptical by attraction; it sticks to the table, while at the same time it tends to fly to the excited rod. This arises from the same power that I before exhibited in the glass rod. It can be done by a stick of sealing wax and a piece of warm flannel. This power of matter comes out not only under the forms of attraction and repulsion, but in many other circumstances to which I must call your attention.

If, as an experiment you take a couple of flannel finger stalls, and two pieces of white ribbon, you can in a moment produce electricity, and the substances will attract very powerfully by rubbing them between the two finger stalls. In some bodies you have attraction, and in others repulsion; a stick of sealing wax and a slip of paper will serve not only for what I am showing you now, but for many other experiments. You perceive how easily the effects are brought out; by means of a watch-glass and this piece of paper, we may thus get all the results of electric action very well without any trouble or inconvenience. The glass of a watch is a most excellent apparatus for shewing attraction and repulsion. If I place a piece of sealing wax, previously rubbed, upon the watch glass, my finger will pull it to and fro. Heavy as the wax is, my finger, without touching it, will by an extraordinary power which has been developed in the wax by friction bring out this attraction.

[A folded piece of paper was balanced on the convex side of a watch glass, and this was attracted both by glass and sealing wax when rubbed. The stick of wax being rubbed was then balanced on the glass, and it was attracted by the finger and other bodies.]

I shall take this opportunity of showing you a substance which I have just received from Professor Schönbein, which seems most powerful in its electrical excitement, and being new it will interest you. He has been making certain experiments, but I must not venture to inform you of their nature, his discovery being at present a secret.

From a preparation of cotton he has procured a new body, and I have not for a very long time seen any substance so electrical as this. He purposes to make it into common paper for ordinary use. If I lay two pieces on the table, and rub them, they become so strongly electrical that they attract this ball, and a portion of them just passed under the hand is attracted so strongly by the hand that it will not leave it.

When you see that glass, shellac, sealing-wax, and the sleeve of a coat, will produce electricity, and that there is no substance which we cannot by proper treatment bring into a condition to evolve this extraordinary and beautiful power, I have no doubt that this new substance will make an excellent electrical machine.

It will not surprise you, that men finding that this power could be produced, and observing that it could be transferred, set to work to manufacture a machine which should evolve electricity. The electrical machine is unlike anything that belongs to chemical philosophy, or to the mere action of heat, as you may easily conceive.

Here is an apparatus by which we grind out electricity in the same way as by rubbing glass on amalgam, (a cylindrical machine.)

Here is a machine of plate glass of another shape. I may point out the manner in which the electricity comes forth, and the quantity of power developed. What I wish you to observe is the manner in which the power can be carried about, and which gives us the means of supplying it in the various ways in which we want to affect matter.

Here is electricity—where is it produced? In the place to which I now point: evolved from that glass it is brought to this brass point and fixed there; it then passes through this gap, and then it is made to pass through air in an independent state. It is not merely a power that we can evolve at pleasure and can convey to other bodies, but which seems to have for a time a separate existence distinct from the matter where it was first collected: it passes into other matter, during which it may be seen traversing the air in the form of a luminous spark. There is nothing so powerful as the flash of lightning, in which we have a power of this kind passing through a space of some fifty miles, and there penetrating matter in the same way that electricity is now given in small sparks to the substances before you.

But I must take you a little farther before we come to the consideration of the effects of this power, which will form the main subject of these lectures.

You will remember that we evolved elec-

tricity upon the glass or upon the shellac, which was able in the first instance to attract the ball and then to repel it, and therefore in that way we get as it were two opposite and contrary effects; first, attraction, and after that repulsion. By one simple act, by one piece of glass, by one exercise of friction, I get a power which produces both of these effects. It first acts on the indicating ball, that being in a normal condition, and after that is once come into contact with the exciting body, it is then repelled. The same result takes place if shellac be rubbed by flannel. I am transferring a little more power to the several parts, in order that you may observe the repulsion and attraction. So far you may see that these two actions are alike, and so far they are really alike, but we have to rise to another point, above anything you have yet seen; namely, there are two forces of different kinds; and now observe what takes place. The stick of shellac now causes repulsion, but I will charge it more highly, to show the phenomena which next came out. We have got a pretty good repulsion, so as to hold the ball back. I now take the glass rod, and you would expect that these two things being precisely alike in their general action would be alike altogether. The glass, however, in place of repelling the ball, will attract it more than before.

I now obtain the phenomena as in the first instance, and the piece of indicating membrane, which is now attracted by the glass, is repelled by the excited wax. Can you avoid seeing, whatever is the power in the glass and the shellac, however similar they may be in amount, there is a strange difference in the two, since, when equally rubbed, the one attracts and the other repels? In one this electricity, which is quite as powerful as in the other, does not repel what the other repels. When we take a body rubbed against another, as this shellac against the flannel, until it is excited and made to repel the globe, by leaving the globe in a repulsive state, we shall find that the flannel thus rubbed against the shellac has a similar power, but contrary in its character to that of the shellac. The piece of flannel by being rubbed against the wax has received the power of attraction, while the effect of repulsion exists in the wax. But let us compare the property in a more refined condition between the shellac and flannel. We have got the ball in a pretty good condition, it is charged like the shellac and repelled by it; but now the flannel attracts it more powerfully, because it has been first charged by friction against the shellac, so that this piece of flannel has the same power as the glass had, and a contrary power to the shellac. To what does this lead? to the fact that we are able to evolve power by glass, shellac, sealing wax, paper, or any other substances; and that this extraordinary power is transferable from place to place; but when I come to compare it with the different bodies thus excited we find there are certain differences, that one attracts while the other repels: but we never find a third alteration or change. We always observe that bodies, however excited by friction, will agree either with glass or wax. The ball being charged, the wax repels it, but the glass attracts it; and thus every other body will attract like the glass, or repel like the wax.

But what does this indicate? that if I pass this shellac over the flannel, and take every means to discharge the flannel so as to make the two neutral, both powers are gone, and there is no effect on the indicator. Thus, then, by rubbing the flannel against the shellac we find upon the two rubbed surfaces, two extraordinary powers first attracting and then repelling bodies, but directly opposed to each other, because what one attracts the other repels.

In gravitation we have nothing like repulsion; in electricity we have attraction and repulsion; so that we have a kind of polarity, a sort of duality, by which powers of opposite kinds are brought into relation with each other. If I have only brought this first power,—the peculiar character of electricity, clearly before you, then I hope to carry you hereafter through the more difficult parts of the course.

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### ILL RESULTS OF OPERATIVE MEASURES IN CASES OF INJURIES TO THE BRAIN.

BY SIR B. BRODIE.

THERE is only a small proportion of recoveries among a great number of deaths from these accidents (wounds of the brain.) I was once at the trouble of looking over all the cases of this kind which I could find recorded among my own manuscript notes, and in what might be regarded as standard books belonging to this part of surgery. I constructed a table, which represented, in every case, the kind of wound, the treatment employed by the surgeon as far as operations were concerned, and the results which followed; and it was curious to observe how large a proportion of the recoveries occurred in those cases in which the surgeon either avoided an operation altogether, or confined himself to the removal of some loose and detached pieces of bone. You may well suppose that a person who has a musket-ball lodged in the brain is in a very serious condition; nevertheless, it appears that it is safer to allow it to remain than to endeavour to extract it.—*Sir B. Brodie's Lectures.*

# RESEARCHES ON KYSTEIN.

By Dr. Möller, of Konigsberg.*

*Translated for the London Medical Gazette.*

When M. Nauche, thirteen years ago, first directed attention to the formation, in the urine of pregnant women, of a peculiar pellicle and precipitate, which he named *kystein*, and which he regarded as a new and certain sign of pregnancy, he offered a physiological explanation of this semeiological fact, by considering the precipitated substance to be the peculiar principle of milk, casein, which is secreted in the breast during the period of gestation. As to the correctness of this semeiological fact, and of its physiological explanation, writers are not yet determined, although the phenomenon has been submitted to repeated examinations. Thus, Equisier and Rousseau found the substance in the urine of all the cases examined by them, in four of which it was detected between the first and fourth month of pregnancy; Rousseau, indeed, observed it in the urine even of pregnant animals. These observers, therefore, confirmed the certainty of this sign of pregnancy discovered by M. Nauche. Dr. James Stark, of Edinburgh, also found that in no other condition but in that of pregnancy did there exist in the urine the same sort of pellicle, and the same chemical qualities, as were observed by Nauche to occur in the urine of pregnant women. Dr. Stark believed, therefore, that this substance may with certainty be considered as diagnostic of pregnancy even at the end of the second, or, at any rate, at the middle of the third lunar month of gestation, although, on the other hand, he added, that the occurrence of kystein is not so constant that it may be found in every case of pregnancy at each examination of the urine. Out of thirty cases which he examined, Dr. Golding Bird noticed the absence of kystein three times, but he attributed the circumstance of these exceptions to a casual disturbance of the general health in the women under observation, whereby the secretion of milk in the breasts was interrupted. Dr. Kane, of Dublin, however, declares himself dubious as to the certainty of this sign of pregnancy proposed by Nauche; and in a note in Dr. Kennedy's work on Obstetric Auscultation, he questions its infallibility, for he had once noticed an exactly similar change in the urine of a girl aged fourteen; and on further and more extended researches, he noticed the absence of kystein from the urine eleven times out of eighty-five observations on pregnant women, consequently, in more than one-eighth of the cases, whereas in one-third of the cases in which he examined the urine of women whilst suckling, this substance was present. And, on the other hand, he observed that a pellicle resembling that of kystein forms itself in the urine of individuals suffering from phthisis, arthritis, metastatic abscesses, and vesical catarrh; yet in these cases the pellicle usually appeared somewhat later, developed itself more rapidly, and had a less amount of cohesion, than in pregnancy. With these observations the researches of Frank Simon, and the results of my own investigations, exactly correspond. It would seem, as Dr. Golding Bird has already observed, that disturbance of the health of pregnant women easily puts a stop to the separation of kystein with the urine. Thus, in a phthisical patient in the third month of her pregnancy, and in another woman who was debilitated by several confinements occurring in rapid succession, in her fifth month, not a trace of kystein was found in the urine, so long as they each suffered from debility, headache, frequent cough, dyspepsia, and vomiting; but when, after about two months, their general health became tolerably good, kystein at once showed itself, although sparingly, in their urine. Another patient, however, who, in the third month of pregnancy, suffered from a very similar affection, yet in whose urine a large separation of kystein was observed, affords proof that the disturbance of health is not entirely effectual in preventing the occurrence of kystein. But I have commonly observed, that when the urine presents febrile characters, that is, when it possesses a strongly acid reaction, and lets fall a large quantity of uric acid, and of urates, that the formation of this peculiar pellicle and precipitate never takes place. This, of course, was especially observed to be the case during febrile conditions of the system, although in some cases there was no material indisposition, yet the urine presented febrile characters. Suppressed perspiration is certainly not an essential condition to the disappearance of kystein from, and the appearance of the urates as sediments in, the urine, as Dr. Golding Bird seems to suppose. Thus, for example, I observed a case in which a young, delicate, and very sensible female, in the eighth month of pregnancy, became attacked, in consequence of prolonged mental emotion, with very severe hectic and profuse sweats, without, however, any local disorder which could have caused the attack, being discoverable. During the whole period of the attack the urine was highly acid, and became turbid on cooling, from the deposition of urates, yet at no time did it show a trace of kystein. But when, after treatment for three weeks with mineral

* Casper's Wochenschrift, 1845.

acids and quinine, the hectic fever disappeared, and the urine had resumed its normal character, then did it deposit a very large quantity of kystein.

Although from the above observations there can be no doubt that the occurrence of kystein in the urine is by no means constant, even in cases where pregnancy is known to exist, still the real test of its semeiological value will be in those cases in which we are unable, by means of the ordinary signs, to determine whether we have to deal with a case of pregnancy or with one of diseased uterus, or other abdominal organ. By good luck I have had the opportunity of examining two cases of this kind. The first occurred in a woman aged 32, who considered herself to be pregnant, the catamenia having ceased for three months, and the abdomen having enlarged. When first she came under my notice she presented symptoms of peritonitis, which had come on very suddenly the day previous. On examining the abdomen, the walls of which were tense, and painful on pressure, a tumor was felt, reaching from the pubis up to the umbilicus, even higher on the left side; this was soon recognised to be the uterus. The vaginal portion presented those peculiarities which are inseparable from any considerable expansion of the body of the uterus—namely, shortening and a rounded form of the os uteri. The discrepancy between the calculated period of the pregnancy and the disproportionate size of the uterus, together with the irregular shape of the organ and the attendant symptoms, rendered it highly improbable that this was a case of normal pregnancy, and it was only questionable whether the great enlargement of the uterus was due entirely to an hypertrophy, or whether conception also had taken place, and with it the ordinary change in the condition of the uterus. When I first examined the urine, which was whilst the febrile symptoms were present, it exhibited the ordinary febrile characters, and was without a trace of kystein. But after the lapse of about four weeks, when the inflammatory symptoms had subsided, the tumor still retained the same size; the urine, which now presented its ordinary aspect, had developed in it a pellicle and a precipitate, both of which, when examined beneath the microscope and tested with the surest reagents, presented all the characters of kystein. Later on, whilst being treated with iodide of potassium, there suddenly occurred a profuse menstrual discharge, which lasted for eight days, then, after a short interval, reappeared, and produced so rapid a subsidence of the abdominal tumor that in a few weeks the patient was discharged well. There was nothing to lead to the supposition that an abortion had occurred in this case, for during the hæmorrhage no clots were ever discharged, neither did the diminution in the size of the tumor take place suddenly, but gradually, although in a comparatively short time. Unfortunately, I did not observe the condition of the breasts. But if we admit the explanation given by Nauche, that kystein consists of caseine originally secreted by the breasts and reabsorbed from them, then there is nothing remarkable in the formation of kystein occurring in diseases of the uterus, since, during their progress, increased fulness of the breasts and a secretion of milk frequently takes place, just as in pregnancy.

In a second case which I noticed no change in the genital organs was found. It occurred in a woman aged 40, already very decrepid, about whose previous condition, owing to her stupidity and confusion of intellect, little could be learnt, beyond that the catamenia had not appeared for near a twelvemonth, and that during almost the whole of this time she had been confined to bed with headache, vertigo, and great debility; the abdomen was also said to have been tense and painful. During this period she was seen at various times by different medical men, and was sometimes pronounced pregnant, at others not, probably because the form of the abdomen had varied much at different times. When I first saw the patient she was excessively weak, had impaired memory, and great confusion of intellect; her pulse was rapid, skin dry, but cool; she was passing an enormous quantity of urine, and had an insatiable thirst. There could not be even a suspicion of pregnancy in this case, for besides that the ordinary period for the continuance of gestation had long since expired, nothing was felt in the abdomen beyond an indistinct hardness on deep pressure, and even this seemed to have somewhat altered its character in the course of a few days. The urine, which was examined only because of its possibly being diabetic, was pellucid, neutral, of low sp. gr. (1006), and contained very litle solid matter, not any sugar. A portion of it having been accidentally kept for two days, a pellicle was found to have formed upon it, which in all respects was similar to kystein. The patient shortly afterwards died, and upon examining the body we found tubercles deposited in the membranes of the brain; there was no abdominal tumor. Probably the hardness which had been perceived was caused by the distended intestines.

In both the above cases the pellicle formed on the surface of the urine certainly was very thin and loose, as Kane observed it to be in other diseases, yet this peculiarity proves nó real difference between it and ordinary kystein, particularly since a similar

modification also occurs in some cases of pregnancy.

The above remarks shew how little we are enabled to draw any definite conclusions from the presence or absence of kystein, in those cases where the ordinary signs of pregnancy are dubious. Although, therefore, Nauche's discovery must be considered to be of secondary value in point of diagnosis, yet it unquestionably possesses a high physiological interest. That in the latter point of view little has been hitherto contributed by writers on the subject, may probably be explained by the circumstance that a further consideration of a semeiological phenomenon commonly ceases when the immediately practical proof of it attracts the attention of observers, and becomes of much importance. Before I engage in a physiological consideration of this peculiar substance found in the urine, it will be advisable briefly to notice its qualities and the mode in which it makes its appearance, especially since strange and very different statements are sometimes made on these points.

Upon allowing the morning urine of a pregnant woman to remain at rest in a tall narrow vessel, the first change which takes place in it is the subsidence, in the form of a cloudy precipitate, of the mucus which is present in greater or less abundance. Then the whole fluid becomes turbid, and almost at the same time there forms, along the sides and at the bottom of the vessel, a flocculent or crummy (knümliche) precipitate, and on the surface a thin pellicle, which is commonly mixed with a tough kind of scum. The first appearance of this change is sometimes observed even in from twelve to fourteen hours, but commonly not until after the second or third day. Some previous observers, who state that this change commences directly after cooling of the urine, do not seem to have distinguished between the precipitate of kystein and that belonging to mucus and to the salts of uric acid. If the urine is unfiltered, the sediment of kystein appears as a thick yellowish white layer, covering the more transparent cloud of mucus beneath, from which it is impossible afterwards to separate it. Therefore it is well either to filter the urine, or at any rate, having allowed it to stand for a couple of hours, carefully to decant off the clear fluid from the sediment of mucus which may have formed. Very shortly the precipitate becomes more abundant, and the pellicle also becomes thicker and firmer, so that, with a spatula, it may be lifted off in a more or less entire layer, according as it approaches in consistence the pellicle of fat which forms on the surface of cooling broth, or the thin membrane on the surface of boiled milk. After the pellicle has remained floating for several days on the surface of the urine, it loses its firmness and cohesion, crumbles to pieces either spontaneously or still more readily if the fluid be shaken, and falls to the bottom of the vessel, where it becomes mixed with the sediment already formed there. Here the substance may remain for a considerable time, without undergoing any further essential change. During the first few days the urine sometimes, but by no means invariably, emits a distinct cheesy odour, which afterwards becomes masked by a pungent smell of ammonia, which is then abundantly generated.

The microscopic characters of kystein have been already accurately described by Simon. I have found this substance to be less easily soluble than some observers have done. Acetic acid certainly soon renders it more transparent, but it does not actually dissolve it. Concentrated mineral acids, and the free alkalies, render it from the first thicker and more opaque. The longer kystein has remained in contact with the urine, the larger and more numerous are the phosphatic crystals which are found mixed with it. In one case, where the urine was of eight days' standing, the chief ingredient, both of the precipitate and of the pellicle, consisted of the peculiar crystals of the triple phosphate, on and between which the amorphous organic material was deposited.

In order to exhibit kystein in its real state, the following procedure appeared to me the most suitable. The pellicle was scummed off, and the precipitate collected by filtering; both were then washed with distilled water until they had completely lost the odour of urine. I then allowed them gradually to dry, and digested them repeatedly in ether, until no trace of fat remained on evaporation. I then dispelled the ether by applying a gentle heat, dissolved the phosphate by means of very dilute hydrochloric acid, moistened the residue with weak liquor ammonia in order to remove all excess of acid, and, lastly, endeavoured by repeated warming to expel any free ammonia which might remain. The substance thus obtained appears as a white, or slightly yellowish, inodorous and tasteless powder, which when dried becomes converted into a soft friable mass. This substance is insoluble in ether, in alcohol, and in water, whether cold or boiling, but whether by long-continued boiling in water it may possibly become in part dissolved, I am not able to determine, being unprovided with the apparatus necessary for this experiment. With regard to the solubility of kystein in acetic acid, Lehmann and Simon differ somewhat; the former observes that generally speaking it dissolves pretty readily, whilst Simon states that after having digested kystein in acetic acid, he could detect in the filtered fluid only a

small quantity of the dissolved substance. On this point I agree on the whole with Simon, for I found that at ordinary temperatures kystein dissolves very slowly in acetic acid. I left a portion of it in contact with concentrated acetic acid for twelve days, and during this period the acid was six times renewed. At each renewal kystein was detected dissolved in the decanted fluid, yet at the end of the experiment a portion still remained undissolved. On the other hand, I obtained an almost complete solution, by digesting, for a couple of hours, a portion of kystein in a large quantity of rather dilute acetic acid, aiding the solution by the application of a gentle heat. Lactic acid acts in a manner precisely analogous to acetic acid. Kystein dissolves most easily in a dilute solution of caustic potash, especially at a high temperature.

According to Lehmann and Simon this substance must now be regarded as a proteine compound, for the following reasons especially: that it is precipitated from its solution in acetic acid by ferrocyanide of potassium, that it contains sulphur, and that when digested for some time in concentrated hydrochloric acid, it gives to this acid a deep blue colour (a phenomenon which Mulder explained to be owing to the formation of a humus acid).* This discovery renders the almost constant occurrence of kystein in the urine of healthy pregnant women still more interesting, since it is probably the only instance of a substance containing protein appearing in the healthy state of the system as an ingredient in an excretion. For although albumen certainly sometimes occurs in the urine without evident disturbance of health, yet these instances are such rare exceptions compared with the number of cases in which the separation of albumen with the urine is manifestly a symptom of disease, that probably we may regard even these rare instances as the result of some pathological condition, although perhaps one of previous existence and very slightly marked.

But it now becomes a matter for inquiry, to determine to which of the protein compounds kystein belongs, in what condition this substance originally exists in the urine, and by whst means its separation from the same is effected. In the first place it cannot be albumen (although albumen occurs not unfrequently in the urine of apparently healthy pregnant women),† for I have many times heated to 167° Fah. portions of urine in which the presence of albumen has been shown both by heat and by nitric acid, have filtered it from the coagulum, and have observed that even after this process a very abundant separation of kystein has taken place; whilst, on the other hand, according to the experience both of Kane and of myself, in most cases no albumen can be detected even by the surest tests in urine which contains kystein. We have therefore to choose between fibrine and caseine. It would be most easy to distinguish between these substances, if the tests for phosphorus were as simple as those for sulphur, since fibrine contains phosphorus, whilst caseine does not. But unfortunately the process requisite to detect this substance is somewhat complicated, and would probably be quite impracticable with so small a quantity of phosphorus as we could obtain from kystein. In the meanwhile, however, it may be inferred, with great probability of truth, that the substance in question consists for the most part of caseine, since Lehmann and Simon have shown that it contains a principle which never occurs in combination with fibrine, but only with casein, namely butyric acid. The best test for caseine is acetic acid, a few drops of which added to a solution of it, produce a precipitate; it is true that in only a minority of cases does this re-agent give rise to a precipitate in the urine of pregnant women.* Yet it is extraordinary that it should induce one at all, since in other acid solutions of real caseine (for instance its solution in dilute lactic acid), the addition of acetic acid will not affect any change.

These considerations naturally lead to the next question to be determined, namely, the condition in which caseine exists in the urine. That it is merely suspended therein is rendered improbable by the fact of a considerable time often elapsing before it is separated, also by the circumstance of its passing through the filter. Now, inasmuch as the formation of the pellicle and of the precipitate occurs coincidently with the appearance of an alkaline re-action in the urine, it appears probable that the caseine is dissolved in the free lactic acid of the urine, from which it becomes precipitated when this acid is neutralized by the ammonia which is subsequently generated.† To be sure, we sometimes observe the formation of a pellicle and a precipitate whilst the urine is still acid; but if we carefully remove these formations, and allow the urine to remain at rest a little longer, a second precipitate will occur in it, showing that the acid which is not yet neutralized still contains caseine

* I have never succeeded perfectly in this experiment; I invariably obtain nothing more than a dark yellow colour of the acid.

† Kane found it only 4 times in 85 cases, whereas I obtained it 15 times out of 44.

* Kane observed it only occasionally, whilst in my observations it occurred in about a third of the cases, provided we only waited for a few hours.

† [This supposition must fall to the ground if Liebig's view be correct, that no lactic acid exists in healthy urine].

dissolved in it. This view is also confirmed by the circumstance, that all contrivances which retard the decomposition of urine offer more or less delay to the formation of the pellicle and the precipitate, without, however, preventing it; this is observed to be the case when the vessel in which the specimen of urine is preserved is kept carefully closed, also when the urine is boiled or particularly when it is filtered: this latter precaution tends to preserve the urine, obviously removing from it the mucus, which promotes the decomposition of urine in the manner of a ferment. But if we add a portion of concentrated acid to fresh urine, the separation of kystein, from it will be entirely prevented, and will not appear even when two days afterwards the acid is completely saturated by ammonia added to it, or when the urine has remained so long that ammonia has become spontaneously generated in it. I have performed this experiment with sulphuric, nitric, hydrochloric, oxalic, tartaric, acetic, and lactic acids, and have invariably obtained similar results.

Nauche, and more recently Golding Bird, seem to consider that this caseine is first secreted in the breasts, from which it is reabsorbed, and then excreted from the system together with the urine. Kane, indeed, observed that in women who were suckling, the pellicle on the urine appeared, especially at those times when the evacuation of milk from the breasts was stopped; Golding Bird also noticed that in the urine of a pregnant woman, who was also at the same time suckling another child, there was no kystein, but on the day after the death of the child the peculiar caseous pellicle made its appearance. If the above explanation of these facts were correct, then would the old notion of milk transposition (milchversetzungen) receive support. For in cases where the evacuation of milk from the breasts is prevented, the ingredients of milk might be taken up again into the mass of blood as excrementitious; then might they exert an injurious influence on important organs, for they would in reality become foreign matters to the system. But such an idea is probably a very constrained one, and is scarcely compatible with our present knowledge in regard to the phenomena of secretion; we ought rather to suppose that during the periods of pregnancy and of lactation a portion of the proteine held dissolved in the blood assumes the modification of caseine, whilst a portion of the fat of the blood takes the composition of butyrine, and that the greater portion of these substances passes into the lactiferous ducts, whilst the remainder becomes separated by the kidneys. Hence the discharge of kystein by the urine will, to a certain extent, compensate for the hindered secretion of milk; but if the secretion of this fluid becomes so greatly hindered that the system in consequence reacts, and a state of feverishness is induced, or a similar state of ill health results from any other cause, the above-mentioned metamorphoses of the ingredients of the blood will be prevented taking place, and there will be a simultaneous disappearance of milk from the breasts, and of kystein from the urine, whilst in the latter fluid a sediment of urates will appear instead.

I may observe here that I have twice found in kystein a substance which, so far as my knowledge extends, has not hitherto been shown to exist in the urine, namely, cholesterine. I discovered it the first time by chance, when I had allowed to evaporate on a watch-glass the ether in which I had shaken up a portion of washed and dried sediment of kystein, and then examined this beneath the microscope: with powers magnifying 70 diameters, I observed in this sediment, besides numerous drops of fat, many very beautiful hexagonal plates. The urine was from a woman in the third month of pregnancy, who was suffering from headache, nausea and vomiting, but presented no symptoms of an hepatic affection. Since then I have frequently, in vain, sought for cholesterine in the urine of pregnant women, and have only found it in one other case, which was that of a perfectly healthy woman in the seventh month of pregnancy. In both cases the urine was of a somewhat deeper colour than it is usually observed to be during pregnancy.

I will conclude by expressing a desire that the attention of chemists may again be directed to this subject, especially to two points of which I am unable to offer any chemical explanation, namely, the frequent occurrence of a precipitate of kystein in acid urine, produced by the addition of acetic acid, and the complete prevention of the appearance of this substance by the addition of a few drops of a concentrated acid.

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PROTRACTION OF LIFE IN CERTAIN CASES OF SCIRRHUS OF THE BREAST.

It is very true that a scirrhous tumor of the breast will generally terminate the patient's life, if left to itself, in three or four years; nevertheless, it often lasts much longer. I remember a lady of fashion, who had a scirrhous disease of the breast; who lived in the world, and nobody knew anything about it for several years,—I believe ten or fifteen. I remember another lady who had a scirrhous tumor of the breast twenty-five years; and she died at last, not from the disease of the breast, but from effusion into the cavity of the chest.—*Sir B. Brodie's Lectures on Pathology and Surgery.*

## Original Communications.

### TABLE OF SECONDARY INFLAMMATIONS, &c.

WITH OBSERVATIONS,

By Henry Lee, Esq.

Formerly House-Surgeon to St. George's Hospital.

*Table of all the fatal Secondary Inflammations, with their results, which occurred among the surgical patients in St. George's Hospital, during the year* 1845.

1. Elizabeth Mackintosh, æt. 25. Inflamed bursa patellæ; erysipelatous inflammation in the neighbourhood of the right axilla; sudden suppression of the catamenia; rigor; peritonitis; tongue covered with a yellowish white coating; sickness; "catching pains" in the epigastric region. Symptoms of secondary inflammation appeared a few days after the appearance of the erysipelatous inflammation, three days before death. *Post-mortem appearances:* dark-coloured serum mixed with shreds of recently effused lymph in the cavity of the left pleura; large quantities of sero-purulent fluid, with recently effused lymph in the peritoneal cavity.

2. James Stevens, æt. 46. Punctured wound of the finger whilst opening a rabbit; diffuse cellular inflammation of the right arm; spasmodic and "catching" pains, principally referred to the epigastrium; expectoration of bloody fluid. Symptoms of secondary inflammation appeared about twenty-seven days after the injury, seven days before death. *Post-mortem appearances:* bloody fluid in the cavity of the left pleura; pus in the *left* elbow-joint.

3. William Collins, æt. 36. Bruise of the patellæ, caused by the wheel of a carriage; apparent recovery; erysipelatous redness over the knee; rigor; rapid pulse; hot skin, followed by perspirations; pain in the head; restlessness; delirium. Symptoms of secondary affection appeared twenty days after the accident, three days before his death. *Post-mortem appearances:* cavity of the knee-joint containing a quantity of thick grumous fluid, apparently a mixture of blood and synovia; fibrous degeneration of a portion of the cartilage of the patella; turbid serum in the sub-arachnoid cellular tissue; bloody puncta in the brain, larger and more numerous than natural; posterior part of both lungs gorged with blood.

4. Maria Martin, æt. 39. Caries and necrosis of the tibia, with large ulcer of the leg. Symptoms of secondary inflammation appeared several months after the occurrence of the caries of the tibia, a few days before death. *Post-mortem appearances:* the skin of the upper part of the leg, and the whole of the thigh, of a mottled appearance, caused by extensive dark patches of incipient gangrene; the cellular tissue of the limb infiltrated with lymph and pus.

5. George Mason, æt. 42. Compound comminuted fracture of the metacarpal bones; inflammation of the absorbents; erysipelatous redness of the skin; secondary abscess in the affected arm; rigidity of the muscles of the tongue; trismus; universal affection of the muscles. Symptoms of secondary inflammation appeared nine days after the injury, twenty-two days before death. *Post-mortem appearances:* increased degree of congestion both in the grey and white substance of the brain; substance of the *pons varolii* and of the *medulla oblongata* of a pinkish colour, and presenting irregular streaks of increased vascularity; spleen soft and somewhat congested.

6. Sarah Legg, æt. 50. Necrosis of a portion of the tibia, accompanied by a large foul ulcer. Symptoms of secondary inflammation appeared a few days before death. *Post-mortem appearances:* effusion of serum and lymph in the cellular tissue which surrounds the pharynx and œsophagus; inflammation and ulceration of the mucous membrane of the larynx; slight inflammation of the lungs; the spleen of a greyish-red colour, more solid and more easily lacerated than natural.

7. Elizabeth Moleno, æt. 42. Strangulated femoral hernia of the left side; operation; erysipelatous blush around the wound upon the third day, followed by sickness, cold perspirations, and delirium; several dark-coloured patches upon the skin of the right leg. Symptoms of secondary inflammation appeared eight days after the operation, four days before death. *Post-mortem appearances:* the lining membrane of the right internal saphenic vein of a dark livid colour throughout; the cavity of the vessel filled with large quantities of coagulated blood, mixed with puriform fluid; pus in the common iliac vein; effusion of serum around the veins of the leg; liver large and congested; mottled degeneration of both kidneys.

8. Jane Cox, æt. 60. Scalp wound; erysipelas of the head and face; transverse fracture of the external malleolus, followed by suppuration in the ankle-joint. Symptoms of secondary inflammation appeared a short time before her death. *Post-mortem appearances:* mortification of the skin of

the lower part of the leg, ankle, and foot; slight extravasation of blood into the arachnoid cavity, and into the substance of the brain; kidneys coarse in structure, and remarkably soft.

9. Bartholomew Sullivan, æt. 27. Lacerated and contused wound of the leg, followed by diffuse cellular inflammation, and inflammation of the absorbents; delirium; a separate large circular patch of mortification, surrounded by bright-red congestion, appeared in the right groin the day before his death. Symptoms of secondary inflammation appeared five days after the accident, eight days before his death. *Post-mortem appearances:* motification of the skin and cellular tissue of the right leg; the veins of the limb healthy; spleen of a pale colour, and very soft.

10. George Forscutt, æt. 24. Fracture of the femur into the knee-joint; rigors; erysipelas of the limb, ill defined, and very slow in its progress; coma; abscesses in the leg and thigh; mortification of the skin on the dorsum of the foot, and over the left hip. Symptoms of secondary inflammation appeared six days after the accident, twenty-two days before his death; pain in the chest the day before his death. *Post-mortem appearances:* hepatisation of both lungs, with secondary abscesses of the left one; kidneys soft and coarse in texture, the left one presenting a small deposit of apparently tubercular matter; spleen large, pale, and soft.

11. William Wright, æt. 30. Fracture of the patella; erratic erysipelas; diarrhœa; abscesses in the leg and in the knee-joint. Erysipelas appeared a month after the fracture of the patellæ, and about the same time before his death. *Post-mortem appearances*: effusion of lymph in the pleura; secondary abscesses in different stages of formation in both lungs, and deposit of lymph in one kidney.

12. Henry Bateman, æt. 19. Fracture of the fibula; diffuse cellular inflammation of the leg; suppuration in the knee-joint; necrosis of a portion of the fibula. Symptoms of secondary inflammation appeared three months after the accident, three weeks before death. *Post-mortem appearances:* recent effusion of lymph upon the pleura; incipient secondary abscess in both lungs; the tibia exposed, and its structure of a black colour, and soft.

13. John Clarke, æt. 45. Large scalp wound; rigor, followed by paralysis of one side; a portion of bone exposed, of a darkish-green colour, and when removed of a putrid odour. Symptoms of secondary inflammation appeared nineteen days after the accident, three days before death. *Post-mortem appearances:* effusion of lymph between the dura mater and the bone, and of pus and lymph within the cavity of the arachnoid; pus mixed with the blood in the superior longitudinal sinus; deposit of lymph in the structure of the pia mater; recently effused lymph in the cavity of the left pleura; secondary abscesses of the left lung.

14. Matthew Elmes, æt. 37. Injury of the wrist; diffuse cellular inflammation; abscesses in cellular tissue, and in the wrist-joint; lower extremities of the radius denuded; pains in various parts of the body, especially the head and abdomen. Symptoms of secondary inflammation appeared on the tenth day after his admission into the hospital, four days before death. *Post-mortem appearances:* secondary abscesses, in various stages of formation, in both lungs; suppuration between the different bones of the carpus; both kidneys large, coarse in texture, and flabby; spleen soft, easily lacerated, and of a pale colour.

15. Mary Hopkins, æt. 19. Ulceration of the cartilages, followed by suppuration of the knee-joint; amputation; erratic erysipelas over various parts. Erysipelas appeared a week after amputation, sixteen days before death. *Post-mortem appearances*: low inflammation of a portion of the left lung; dark-coloured patches of deposit in the spleen.

16. John Wilkinson, æt. 66. Compound fracture of the right tibia; inflammation around the wound, with collections of matter; slight delirium; sickness; pain in the right side a week after his admission. *Post-mortem appearances:* turbid serum in the right pleural cavity; incipient secondary abscesses in both lungs; large cysts in the kidneys.

17. James Bryant, æt. 20. Scalp wound denuding the bone; puffiness of the scalp upon the eighteenth day; rigors, followed by profuse perspirations; restlessness; delirium; projection of the eye-balls. Symptoms of secondary inflammation appeared twenty-four days after the accident, five days before death. *Post-mortem appearances:* bone exposed to the extent of a shilling, of a yellow colour, and with a very dark diploe; effusion of lymph and pus between the dura mater and the bone, extending to the base of the skull, and through the sphenoidal fissures into the orbits; effusion of pus into the arachnoid cavity; incipient secondary abscesses in the lower lobe of the left lung; spleen large, very soft, and grumous; mottled degeneration of both kidneys.

18. James Williams, æt. 41. Fracture of the lower extremity of the left radius; diffuse cellular inflammation of the arm at the expiration of four weeks; abscesses in the limb, one of which communicated with the fracture; diarrhœa; vomiting; tongue dry and brown. Symptoms of secondary inflammation appeared ten weeks after the

accident, and one week before death. *Post-mortem appearances:* Large cavity, containing foul matter in the neighbourhood of the sacrum; abscesses between the bones of the left wrist and hand, extensively exposing the bones. Spleen soft, congested, and grumous.

19. John Munday, æt. 36. Prolapsus ani; hæmorrhoids; rigor; anxiety of countenance; great heat of skin; pulse 150. Symptoms of secondary inflammation appeared on the eighth day after the operation, and fourth before death. *Post-mortem appearances:* The mucous membrane of the whole of the large intestine of a very dark colour; recent effusion of lymph in the right pleura; secondary abscesses in both lungs.

20. Esther Polley, æt. 50. Lacerated wound of the foot; separation of a small portion of the base of one of the metatarsal bones; pain in chest; rapid pulse; depression and delirium. Symptoms of secondary inflammation appeared on the tenth day after the accident, and third before death. *Post-mortem appearances:* A double fracture of the fifth metatarsal bone; inflammation of the right pleura; secondary abscesses in the right lung.

21. Henry Lacey, æt. 26. Scalp-wound, exposing the bone; fracture of the skull; rigors; nausea; pains in the head; "soreness of the stomach;" drowsiness and insensibility; paralysis of one side; muscular twitchings; portion of bone removed by the trephine, near the top of the head. Symptoms of secondary inflammation appeared on the eighteenth day after the accident, and a week before death. *Post-mortem appearances:* Yellow matter in the diplöe of the parietal bones in the neighbourhood of the part where the trephine had been applied; effusion of lymph upon the surface of the dura mater; pus and lymph in the posterior half only of the longitudinal sinus; effusion of pus in the cavity of the arachnoid; some bloody serum in both pleural cavities; incipient secondary abscesses in the liver.

22. Thomas Meeds, æt. 15. Injury of the leg; small suppurating sinus upon the outside of the limb; erysipelas; diarrhœa; coma. *Post-mortem appearances:* Vessels on the surface of the brain congested; lateral ventricles distended with fluid; a thick layer of purulent lymph upon the arachnoid membrane at the base of the brain. Some slight spots of ecchymosis on the anterior surface of both lungs.

23. Thomas Daffey, æt. 42. Hæmorrhoids; operation; rigors; sickness; great abdominal pain; diarrhœa; hiccough. (This patient had been salivated previous to the operation for the hæmorrhoids). Symptoms of secondary inflammation appeared on the tenth day after the operation, and ninth before death. *Post-mortem appearances:* Incipient secondary abscesses in the right lung; liver studded throughout its whole extent by secondary abscesses; mucous membrane of the rectum of a dark greenish colour; effusion of pus and lymph into the hæmorrhoidal and inferior mesenteric veins; cavity of the left knee-joint distended with pus; spleen soft, pultaceous, and thickly studded with dark-coloured blotches.

The preceding statement includes all the cases which occurred in St. George's Hospital, during the year 1845, in which fatal secondary inflammation, accompanied by general febrile excitement, followed a local surgical disease. The cases vary much in their origin, course, and termination, yet they all agree in certain characteristic symptoms sufficiently well marked to distinguish them from other inflammatory disorders; and they will therefore admit of a general description, which will be found to apply more or less accurately to each individual instance. The commencement of the disease is marked by a sudden change in the manner and appearance of the patient, accompanied by much febrile excitement or by extreme depression; a severe rigor is usually the most prominent symptom, and is followed in some cases by a very peculiar heat of skin, and in others by profuse clammy perspirations. The rigor may be repeated at irregular intervals, but occasionally it will recur about the same hour for three or four days in succession, and in a few instances it will not be observed at all. The depression which so frequently accompanies this disease is indicated by great anxiety of countenance, a want of tone in the pulse, an extremely listless manner, and sometimes by a tendency to syncope. The tongue becomes generally dry and brown, furred in the centre, and red at its edges, or in other instances it presents a coating of a pasty yellowish-white colour. The skin frequently assumes a dusky-yellow appearance, with or without any evident affection of the liver. The pulse varies much in frequency in different cases, and at different times in the same case, but generally it is very rapid especially when accompanied by much heat of skin. The pain experienced in this disease is peculiar; being occasionally severe, and referred exactly to the spot which subsequent

examination proves to have been the seat of the secondary inflammation; at other times the pain is not situated in any particular part, but consists in general ill-defined sensations of short duration, but recurring at irregular intervals. The expressions by which a patient will endeavour to convey his feelings, such as "catching pains all over," "soreness at the stomach," "thrilling in the blood," &c. sufficiently indicate the peculiarity of the sensations which frequently accompany this disease. "Tightness in the chest" is not unfrequently mentioned, but it differs from other similar symptoms, inasmuch as it may frequently be accounted for by the physical changes produced in the lungs. Vomiting may occur either during the first stage of the disease as a symptom of constitutional disturbance, or subsequently as indicative of secondary inflammation of an abdominal organ; under the latter circumstances it is generally extremely obstinate, and the fluid ejected is of a green colour. Diarrhœa is a symptom of frequent occurrence, and perhaps of more consequence than any other as influencing the course of the disease, since its appearance will frequently be accompanied by the relief of the other symptoms; when it occurs it is generally profuse, little under the control of medicine, and if checked will frequently be followed by a sudden change for the worse in the condition of the patient. The intellect is seldom affected during the first stages of the disease, but subsequently restlessness, delirium, and coma, seldom fail in severe cases to succeed each other. The course which these cases pursue is peculiar in the rapidity with which the different symptoms make their appearance, and also with regard to the readiness with which the seat of the disease may appear transferred to different organs in succession, and to distant parts of the body.

The post-mortem appearances observed in consequence of secondary inflammation are for the most part peculiar to this class of diseases, but there are some which from their appearance alone are not easily to be distinguished from the effects of common inflammation. These morbid appearances vary according to the structure of the organs attacked, and the stage of development in which the disease is found. The lungs are the organs in which secondary inflammation most frequently occurs, and in which the different stages of its progress are best seen. The first appearance is generally that of a small well-defined ecchymosed spot of a very dark colour, followed by a hard spherical patch of purple congestion. In the centre of this discoloured part a small portion of light-coloured lymph, or a globule of pus, may be detected; at other times, but more rarely, the congestion is of a lighter colour, and its boundary being well marked, it resembles a patch of lobular inflammation. In the second stage of the disease lymph is effused, in consequence of which the structure of the lung gradually becomes indurated, the induration commencing in the centre and gradually proceeding towards the circumference of the affected portion. In the third stage pus is secreted instead of lymph, and the different parts become softened and broken down in the same order in which they were previously solidified. The pus secreted in this stage of the disease is not, as will be hereafter shewn, to be confounded with the small globule of pus, which is occasionally found in the centre of the congestion at the commencement of the disease.

After the lungs, the liver is the organ which most frequently becomes the seat of secondary inflammation. The appearance here produced is that of brownish red spots, which as they extend assume a bluish or slate colour. These spots proceed very rapidly to suppuration, and the usual appearance presented after death is that of small circumscribed abscesses, around which the structure of the liver is discoloured only to a very small extent. It frequently happens that the lymph secreted is effused into the cavities of the veins of the liver, and as these are held open by the firm structure of the part they do not become so completely blocked up as they would in other situations. The blood becomes consequently irregularly mixed with the lymph or pus, and produces a mottled appearance resembling granite. The spleen is sometimes, but not frequently, the seat of secondary inflammation; a chocolate-coloured, irregular, but well-defined induration takes place, and becomes sooner softened and broken down in this than in any other organ.

Deposits of lymph are sometimes observed in cases of secondary imflammation in the kidneys, but they are of smaller extent and of lighter colour than in other parts, and resemble more the deposits of lymph produced in other cases. In the cellular membrane, serum, lymph, and pus, may be deposited mixed in various proportions with each other, and the post-mortem appearances thus produced differ little from those of common inflammation. The degree of surrounding vascularity is generally small, and the lymph effused not properly organised. There is consequently no natural boundary to the inflammation, and the fluid secreted becomes infiltrated in the surrounding parts. When the muscular structure is the seat of the secondary affection, suppuration takes place with the greatest rapidity; there is here the same absence of the natural limit to the inflammation as in the cellular tissue, but owing to the firmer structure of the part the deposits of matter generally remain circumscribed.

The skin, as is shown by the accompanying table, is liable to become affected in these diseases, and in consequence of its great degree of vascularity the changes produced in it differ in some respects from those observed elsewhere.

[To be concluded in our next.]

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### ON THE MEANS OF PREVENTING BED SORES.

The thicker the cuticle, the more it will protect the parts beneath; you may, if you attend to it in time, add to the thickness of the cuticle by stimulating the surface of the skin. Nurses know this very well, for when patients are bed-ridden, they wash the parts subjected to pressure with brandy. What is still better is a lotion composed of two grains of bichloride of mercury to an ounce of proof spirits. When you think that a patient is likely to be confined so long in bed that sloughs may be found on the os sacrum, begin at an early period to wash the parts two or three times a day with this lotion. I have found it useful in other cases where a patient suffers from pressure. For example, in a case of hernia, which requires to be supported by a very powerful truss, the truss galls and frets the skin, and may at last cause inflammation and sloughing; but, under the use of a stimulating lotion, a thicker cuticle is generated, and such mischief is avoided.—*Sir B. Brodie's Lectures on Pathology and Surgery.*

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## NATURE AND TREATMENT OF FLOODINGS AFTER DELIVERY.

By Edward Copeman, F.R.C.S.

[Continued from p. 897.]

Dr. John Power believed in the connection by blood-vessels between the uterus and placenta; for, in speaking of the expulsion of the placenta after delivery, he says, it ought in every instance to be the effect of uterine action, otherwise the *arterial orifices may not only be left in an unobliterated state*, occasioning hæmorrhage, but cavities may remain for the reception of internal bleeding or the accumulation of coagula.* "The placenta is fastened to the fundus uteri, and when extracted, leaves the mouths of an infinite number of vessels gaping, which are able to afford a prodigious quantity of blood if they remain long opeu; the contraction which happens to the uterus as soon as it is emptied, is what closes them."

Dewees also maintains the doctrine of a vascular connection between the uterus and placenta, although in a manner somewhat different to the Hunters; he imagines that there are numerous small decidual vessels to receive the blood from each uterine arterial trunk, instead of the uterine arteries themselves passing through the decidua.†

Denman says, "it is now generally allowed, that the two systems of vessels in the placenta, one of which may be called maternal, the other fœtal, are distinct. It is thought that the blood, which has probably undergone some preparatory changes in its passage through the uterus, is conducted, by the uterine or maternal arteries of the placenta, to some cells or small cavities in which it is deposited; and that some part of it, or something secreted from it, is absorbed by the fœtal veins of the placenta, and by them conveyed to the fœtus for its nutriment. When the blood which circulates in the fœtus requires any alteration in its qualities, or when it has gone through the course of the circulation, it is carried by the arteries

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* Treatise on Midwifery, page

† Treatise on Midwifery, by Lamotte, translated by Tomkyns, page 477.

of the funis to the placenta, in the cells of which it is deposited, and then absorbed by the maternal veins of the placenta, and conducted to the uterus, whence it may enter the common circulation of the parent*."

Dr. John Burns gives the following explanation:—"If we inject from the umbilical vessels of the human fœtus we find that the placenta is rendered turgid, and vessels are to be found filled in every part of it; but always between their ramifications there remains an uninjected snbstance; even the uterine surface of the placenta is not injected, for the fœtal vessels do not pass all the way to that surface. If we inject from the uterine arteries, we, in like manner, render the placenta turgid, but nothing passes into the umbilical vessels; and when we cut into the placenta, *we find cells full of injection*, and covered with a fibrous uninjected matter. Hence, we conclude that the placenta consists, uniformly, of two portions. The one is furnished by the deciduous coat of the uterus, the other by the vessels of the chorion; and these two portions may, during the first three months, be separated, by maceration, from each other.

"The structure of the fœtal portion, so far as we know, appears to be similar to that of the pulmonary vessels, the artery terminating in the vein. But the other portion is somewhat different; there is not a direct anastomosis, but the artery opens into a cell, and the vein begins from this cell; *for by throwing in wax by the uterine artery, we may frequently inject the veins.* These cells communicate freely with each other, in every part of the placenta, and may be compared to the corpora cavernosa penis."*

Dr. Robert Lee remarks, "If you keep this (uterine) surface of the placenta convex, you can see numerous small tortuous arteries in the decidua filled with maternal blood. Their open mouths are visible at the surface of the membrane, and they soon disappear after making, as John Hunter describes, 'a twist or spiral turn upon themselves.' These decidual arteries soon terminate in the cavernous structure of the placenta, but they do not anastomose with the fœtal vessels; *through these small tortuous canals in the decidua, the maternal blood flows from the arteries of the uterus into the cavernous structure of the placenta. It is easy to inject these decidual arteries from the uterine arteries, and to demonstrate their continuity,* though their structure is different; the uterine arterial tissue not being continued into the decidual arteries. But, besides the arteries of the decidua, there are veins by which the maternal blood is conveyed from the cavernous structure of the placenta into the veins of the uterus, and by which the maternal circulation of the placenta is completed.

"The discovery of the circulation of the maternal blood in the placenta, made by the Hunters, which throws so much light upon the whole œconomy of the fœtus, especially the processes of respiration and nutrition, will be regarded in all future ages as one of the greatest that has ever been made in human anatomy, and as second only to the discovery of the circulation of the blood by Harvey*."

Ten years before, Dr. Lee held different opinions, from failures in injections and other circumstances; but he now says, "it would be erroneous to conclude from such failures, that the maternal blood does not enter the cavernous structure of the placenta by the decidual arteries, and flow back by the decidual veins into the venous system of the uterus, as first demonstrated by John Hunter."

Mr. H. Mayo gives the following description. "The basis of the placenta is the bed of exuded lymph forming the thicker part of the decidua. It gradually becomes a series of cells: *into these cells the uterine arteries pour blood; from these cells the uterine veins return the blood to the maternal system.* There is thus a perpetual flow of the maternal blood through these cells†." He considers the evidence in favour of the correctness of Dr. Hunter's views satisfactory and decisive.

In 1834, Mr. C. Millard, a very talented anatomist, prematurely removed from this world by over exertion in the arduous pursuit of professional knowledge, published an account of a dissection which he made of a woman who, when expecting her

* Denman's Midwifery, vol. i. p. 224.
† Principles of Midwifery, 1832, page 200.

* Lectures on Midwifery, MED. GAZETTE, vol. xxxi.
† Outlines of Physiology, page 447.

confinement every day, was attacked with cholera which proved fatal in 18 hours. He says, "The uterine veins or sinuses were very large, especially in the immediate neighbourhood of the placenta," but he could not trace them beyond their semilunar openings in the lining membrane of the uterus; "Vessels, apparently arteries as well as veins, of some size (three or four as large as crow-quills) were distinctly seen passing from the uterus into the placenta, directly from without inwards, and crossing the uterine sinuses almost at right angles. The placenta separated very easily from the uterus, the vessels above alluded to offering but little resistance, the uterine veins offering none."*

Dr. Blundell says, "The maternal circulation is exceedingly simple: the blood enters the cells of the placenta by means of the uterine arteries, and leaves them by means of the uterine veins; so that while the ovum remains in the uterus, a copious tide of the maternal blood flows through those cells, and this, when the ovum is detached prematurely, supplies the blood in those copious floodings which we shall have to consider."†

Other authorities might be brought forward in favour of there being a vascular connection between the uterus and placenta; but surely those I have quoted are amply sufficient to prove that I am not singular in "venturing to maintain the old doctrine of this vascular connection."

On examining a recently detached placenta a day or two ago, I could with a blow-pipe make distinctly apparent to the naked eye the open mouths of several uterine arteries on the surface of the placenta, the openings being quite as large as the small extremity of the blowpipe. By introducing the blowpipe into the substance of one of the lobes of the placenta, I could fill the spongy substance of the lobe with air, but the air did not proceed beyond the lobe into which the pipe was introduced; I distended several of the lobes in succession, and it was clear that the cells of each lobe were distinct from those of the adjoining lobes.

From the testimony of those authors whose opinions I have quoted, and whose powers of observation and intelligence are equal to any the world can produce, coupled with the evidence of my own senses* as to the existence of blood-vessels on the surface of the placenta, it does appear to my mind almost beyond a doubt, that "blood is poured into the placenta by arteries from the uterus; and that after circulating through its spongy substance, it is returned into the uterine sinuses, which, passing in an oblique direction in the substance of the uterus, become closed when that organ contracts, and like valves prevent the blood from passing back into its cavity."†

But, in addition to this direct evidence of the vascular connection between uterus and placenta, there is another consideration which very materially tends to strengthen my belief in the correctness of the views entertained by the Hunters, Lee, Mayo, Owen, &c. I have before quoted the very interesting description given by Mr. Owen of the anatomical disposition of the veins which ramify in the substance of the walls of the uterus; there is evidently something unusual in the mode in which they communicate with each other; and reasoning from analogy, and the experience which we daily possess of the wisdom and beneficence of our Almighty Creator, we cannot but know that such an arrangement is not a mere vagary of nature, but that it is intended for some good and wise purpose ordained by God. What purpose, then, is it more particularly calculated to fulfil? We know that it is the nature of the uterus to contract; we see also that by the arrangement above referred to, there can be no reflux of blood from the uterine veins into the cavity of the uterus, during contraction of that organ; and the almost irresistible conclusion from the structure of the parts is, that during pregnancy there is a necessity for a plentiful flow of blood through the uterine veins in a direction from the placenta; and that when

* Med. Gazette, vol. xiv. page 654.
† Principles and Practice of Obstetricy, by Castle, p. 120.

* On examining the uterine surface of a placenta *immediately after its expulsion*, I have distinctly seen round openings from which blood flowed on making gentle pressure. These openings soon become less visible, apparently from being covered with a layer of the fibrin of the blood. Is it possible that microscopists can have mistaken an adventitious layer of fibrin for a true membrane covering the placenta?
† Med. Gazette, vol. xxxvi. p. 1221.

this necessity is at an end, by the removal of the contents of the uterus, the natural contraction of the uterus is the safeguard, and, on mechanical principles, an effectual one, against danger from uterine hæmorrhage.

In speaking of the *cause* of floodings, Mr. Adams limits his inquiry to that species of hæmorrhage which takes place immediately after delivery; but it seems highly probable that the immediate cause of the loss of blood in hæmorrhages occurring at all periods during pregnancy, and before and after delivery, is in most instances the same, and no theory which will not apply to such cases generally can be received as a satisfactory exposition of the source whence the blood is derived. I cannot imagine that a theory which will apply to uterine hæmorrhage after delivery, and not to that which precedes delivery, can be sufficiently trustworthy to be depended upon; there is so great a similarity between the appearances, effects, and means of curing these hæmorrhages occurring at various times, that it is, as it were, necessary that there be some common cause, whose agency is equally intelligible in one or other case. I need scarcely say, that in the opinion of all those authors whose views of the connexion between the uterus and placenta I have quoted, the cause of uterine hæmorrhage is, generally speaking, either separation of the placenta, or want of contraction in the uterus, leaving the connecting vessels open. Mr. Adams himself admits that this hypothesis would stand upon a probable foundation, were it true that such a vascular connection really existed. Speaking of the faulty state of the expelling powers after the birth of the child, Dr. Rigby says:—"If the placenta be still attached by its whole surface to the uterus, no hæmorrhage can ensue; but if the contraction have been of sufficient power to detach more or less of it from the uterus, *large trunks, which have hitherto conveyed maternal blood into the placental cells*, are torn through, and a profuse discharge must be the result." Again: "If hæmorrhage appears, this shows that a separation of the placenta from the uterus must have taken place; our great object should now be to excite contraction of the uterus, *for by this means alone* can we stop the discharge."* There are but very few cases of uterine hæmorrhage which cannot be satisfactorily explained by this theory, but in order to compare its merits with that propounded by Mr. Adams, I shall apply it to the same class of cases referred to by him, namely, to discharges of blood which take place immediately after delivery.

Mr. Adams thus sums up his doctrines concerning uterine hæmorrhage:—"1. Floodings rarely occur after natural delivery, to any extent, if properly guarded against. 2. They happen most frequently after instrumental and manual deliveries, and after deliveries rendered precipitate by the violence of the expulsive action, *in all which cases they proceed from lacerations of the soft parts*, sustained during the passage of the child. 3. Those which occur after labours rendered tedious by the abnormal size of the child may proceed either from laceration or sloughing of the parts. Some rare cases are on record, in which the blood would seem to have escaped by gravity from the uterine vessels, owing to the mother having been raised into an erect posture while in a debilitated state†. 4. Floodings which take place a few hours after delivery, are owing to wounded vessels which have acquired increased activity after the depression occasioned by the shock of delivery has gone off. 5. Those which take place some days after delivery are connected with sloughing of the parts which may either have been injured in the act of delivery, or become tainted by the presence of a putrid portion of the placenta." The phenomena of floodings being thus shewn to be identical with those of hæmorrhages from wounded arteries, the same plan of treatment is clearly identical in both cases. Floodings, then, are to be treated by exposure to cool air, by cold applications to the parts, or, if need be, by cooling injections into the uterus and vagina; by elevated position of the pelvis, and moderate doses of opium. If arterial blood flow rapidly and continuously, an examination should be made, and if a wounded artery is detected, it should be secured by the usual surgical means‡."

* Library of Medicine, vol. vi. p. 214.

† How can this be unless there are uterine vessels communicating with the placenta?

‡ Medical Gazette, vol. xxxvii. p. 150.

That hæmorrhage happens most frequently after instrumental and manual deliveries, and after deliveries rendered precipitate by the violence of the expulsive action, does not at all accord with my own experience, and many of the cases I have met with would not admit of the explanation Mr. Adams gives, that they proceed from lacerations of the soft parts. On the contrary, the only fatal case of hæmorrhage after labour was that of a woman of delicate fibre, whose labour came on with so little warning that the child was born *almost as soon as she felt pain*, without any difficulty whatever; and she immediately flooded so profusely that she was in *articulo mortis* when her surgeon arrived to attend her. She had twice before had the same rapid, *almost painless labour*, followed by profuse hæmorrhage, from which she had been with difficulty preserved. In first labours, which have required strong expulsive pains; in cases where, from the difficult passage of the head, I have been obliged to use the vectis; and in those where I have allowed the body of the child to be expelled by the natural efforts, I have rarely met with hæmorrhage;—it has much more frequently happened in women who have had quick and easy labours, with ample room in the pelvis, easily dilatable soft parts, and delicate constitution. In placenta prævia cases there has been no hæmorrhage after the removal of the placenta, notwithstanding the introduction of the hand and turning the child; and I have been told by a neighbouring accoucheur, who has seen many such cases, that he has constantly remarked the same immunity from hæmorrhage after delivery. In one case of instrumental delivery, where the labour had been very severe for many hours, there was subsequent hæmorrhage without contraction of the uterus to expel the placenta. On introducing my hand to aid the expulsion of the afterbirth, I found it still adherent to the uterus to more than half its extent, and the uterus large and perfectly relaxed. I gently detached the rest of the placenta; the uterus then contracted gently upon my hand as I slowly withdrew it; and as soon as the hand and placenta were removed, the hæmorrhage ceased. Here the patient was so exhausted by the violence and duration of the labour, that the uterus had not power to contract sufficiently to separate the placenta from its surface, although, when this obstacle was artificially removed, its natural contractility was sufficient to lessen its bulk and close the vessels which occasioned the hæmorrhage. It is a mystery to me how it can be possible for severe uterine hæmorrhage, under its usual forms, to depend upon injuries to the soft parts; if it did, why should the arteries bleeding thus profusely be so much more manageable under such circumstances than when wounded by operations in other parts? The femoral artery, if not tied in a stump after amputation, would continue to bleed in spite of cold applications and opium; the same might be said of arteries of smaller dimensions; and why, if an artery in the perineum or vagina occasion profuse hæmorrhage after labour, should the removal of a clot or portion of placenta from the uterus put a stop to it and save life?—why, too, should it prefer to bleed into the uterus, so as to distend and dilate that organ, when it would find a so much readier exit through the vagina? In hæmorrhage before labour, these injuries and lacerations of soft parts are out of the question; yet how similar are the symptoms and appearances, and how successful the same principles of treatment! The usual explanation of these occurrences is equally simple, comprehensive, and applicable, viz. that they depend upon the mouths of the uterine vessels being open, from separation of the placenta and want of sufficient contraction of the uterus to close them; and when the uterus does contract fully, the almost constant result is a cure of the hæmorrhage. The statement that *non-contraction of the uterus is often not accompanied with hæmorrhage*, and that *hæmorrhage often attends violent contractions of the uterus*, does not, to my mind, invalidate the opinion that contraction of the uterus is the safe-guard against flooding. In the first place, such things do not *often* happen; and where hæmorrhage occurs when the uterus seems well contracted, it is, in my belief, only in cases where the patient's circulation is so strong that

the impetus of the blood is sufficient to overcome the natural ligatures formed by the fibres of the uterus; it is a state of things which is not attended with danger; for when, by a certain loss of blood, the *vis à tergo* is lessened, the hæmorrhage no longer continues. Again, when there is non-contraction of the uterus, and no hæmorrhage, we employ the term non-contraction only in a relative sense; we do not mean that the uterus remains dilated to the size it was before the child was born; it will be, at all events, considerably diminished in size; and how can we tell that the part to which the placenta had been attached, naturally more irritable than the rest, may not have contracted sufficiently to obliterate the vessels, and yet leave a cavity of considerable size? I know that the uterus frequently does not, if it ever does, contract equally in every direction after the removal of its contents; for I have felt it, although globular on its anterior aspect and at its fundus, flattened posteriorly, so that its cavity was somewhat of a plano-convex form; and it requires no great stretch of imagination to suppose that, if the placenta were situated at the fundus, the seat of its attachment might be obliterated by contraction, and yet the uterus *as a whole* feel more bulky than it usually does when in a contracted state. This same partial contraction it is which stops the hæmorrhage when a portion of the placenta is separated before labour, and the membranes have been ruptured to lessen the distension of the uterus; so also is it that which stops the hæmorrhage on removing the whole placenta in placenta prævia, according to the plan recommended by Simpson and others. In opposition to this, it has been stated that the neck of the uterus remains in a flabby state after delivery, and therefore it cannot be contraction of the uterine fibres that stops the hæmorrhage when the placenta is separated from its attachment to that part. This at first appears a plausible objection, but a little examination will prove it not subversive of the explanation above given.

[To be continued.]

## CASE OF COLICA PICTONUM, WITH REMARKS.

By J. C. Evans, Esq.

Turnham Green.

James Connor, aged 27, stature tall and muscular, hair light, and complexion when in health florid. Seen for the first time on the 17th of June last, about 10 A.M. Complains of a violent pain in the bowels, and that it is more intense in the umbilical and illiac regions than any other part of the abdomen. Face pale and rather anxious; pulse 64; skin cool and dry; tongue moist, and slightly coated on its posterior part with a yellowish fur; gums spongy and tender, and between the teeth slight elevations of a leaden hue; abdomen hard, and the muscles in a state of contraction, and complains of a dragging pain in the loins and epigastrium: bowels have not been opened since this day week.

History.—Has been in England 15 years; came over with his father and mother; both died of cholera, within a week of each other; had a slight attack himself. They lived in a small street near Rosemary Lane. Since then has been very healthy, until about four years ago, when he had the small-pox; was laid up for about three months. Two years and a half ago he went to work at a white-lead manufactory; before that did any thing for a living; always contrived to get sufficient to eat, and plenty of clothes to wear. He has generally contrived to get drunk once or twice a month; drinks about a quart of bee a day. Married two years ago, and has one child.

Since he has been at work at the place has had several attacks of colic, but none of them have been so severe as this, and they have always yielded to purgative medicines. Has felt the present attack coming on this last week or nine days; lost his appetite; felt weak and languid; had no disposition to work; bowels became costive and to ache occasionally of a morning. Awoke two days ago with the pain very much increased, and violent pain in the head; the pain in the head left him in about an hour, but that in the bowels has gradually become worse. Took some

brandy and laudanum, which eased the pain for a short time: in the afternoon took ʒiss. of castor oil without relief; took, yesterday morning, some more brandy and laudanum, but derived very little benefit from it. In the course of the day took 18 aperient pills and another dose of castor-oil; passed a very restless night; thinks the pain has got worse since taking the pills and oil.

Treatment.—An emetic of Ant. Tart. and Pil. Ipecac. to be taken directly, and its operation assisted by warm water and mustard, and two of the following pills every two hours:—

℞ Ol. Crot. Tig. ♏xij.; Ext. Colo. Co. ℈ij. Hydrarg. Chlorid. ℈j. Mix and divide into 12 pills.

A quart of water-gruel, with 3 tablespoonfuls of goose-grease, to be thrown up as a clyster.

5, P.M.—Bowels not relieved; has been sick twice; brought up a little green bilious matter; pain not increased, but there is slight tenderness on pressure; countenance is very anxious, and the pulse 80.

To continue the pills, and the clyster to be repeated.

10, P.M.—Bowels unrelieved; pain on pressure increased: has been sick several times, but has not brought any thing up; passed about a pint and a half of clear pale urine, sp. gr. 1·015, and slightly acid; pulse 92; tongue rather more coated; skin rather hotter than at the first visit.

A hot linseed meal poultice to be applied to the stomach. To continue the pills without the calomel. The clyster, with 10 grains of Extract of Belladonna, to be repeated, and again in three hours if not relieved.

To take a sixth part of the following mixture every two hours—℞ Acid. Sulph. Dil ʒij. Infus. Rosa. ʒvj. Mix.

About 8 o'clock the next morning sent to say that his bowels had been opened twice—once at 4 o'clock, and again at 7.

He complained only of a little weakness and soreness of the abdomen when I called to see him in the course of the day.

Remarks.—Wearing the clothes they work in constantly, and eating their meals without washing their hands, no doubt but their inattention to these simple points, by assisting to convey the metal into the system, causes the workmen to be attacked with the disease. I know of several instances where, after an attack, care has been paid to those simple duties, several years have passed by without one. I asked this man, and indeed several, how often they washed? Once a week, when they got a clean shirt. That the poison acts by producing paralysis and ultimate contraction of the muscular fibres of the intestines, is sufficiently evident. The following were the appearances of the large intestines of an old man, who had worked for a number of years as a colour-grinder, at an oilman's in Bishopsgate-street. J. B., about 60 years of age, after complaining for a day or two of a cold on his chest, was taken with a difficulty of breathing, and died very shortly after. At the request of a medical man who had seen him on the day he died, I assisted him at the post-mortem examination. The cause of death was bronchitis. I was struck at the time with the smallness of the calibre of the large intestines. There was no increase in the thickness of the coats, and they contained a quantity of hardened fæces. Shortly after, I heard that he had suffered repeatedly from attacks of colic, and that his bowels never acted unless he took some very strong drastic purgative. In the cases which have subsequently come under my care I have always given the dilute sulphuric acid with sulphate of magnesia, at the same time as the croton oil, with the most decided success. The belladonna I have found very useful when given with caution. Five grains in a clyster is a dose quite sufficient for persons of weak constitutions.

Emetics, I think, should not be given indiscriminately in all cases. Hard drinkers, weak or old persons, would do much better without them. In three cases in which I saw them given, the persons' stomachs became so very irritable that neither the medicines nor any food could be kept down, and it was not until some time after that they recovered their usual tone.

# MEDICAL GAZETTE.

FRIDAY, JUNE 5, 1846.

In an early number of the present volume,* we took occasion to comment on a Circular Letter addressed to coroners, by the Registrar-General, in reference to the accurate determination of the causes of violent death. This letter has been reprinted, with a new edition of the Statistical Nosology, in which there are some excellent suggestions to medical practitioners respecting the mode of returning the causes of death. Medical statistics must necessarily be defective until the efforts of the Registrar-General to carry out an effective system of registration, are aided by the members of the profession. Many of the errors in the present returns are to be ascribed to mistake, neglect, or indifference. The Statistical Nosology, which may be procured, free of expense, by every licensed practitioner, on application to the General Register Office, Somerset House, gives such explicit directions on the subject, that we do not see how, with the least attention, any mistake can hereafter arise. With respect to errors from neglect and indifference, let us hope that the experience of the utility of correct statistical tables to the profession, may lead to their speedy removal.

We have ascertained that the great cause of inaccuracy in the returns has been owing to inattention on the part of practitioners, to a few very simple rules. As these rules may not have been seen by many of our readers, we shall here reprint them :—

"(1.) State the causes of death in terms as precise and brief as possible; and use, if convenient, the names recommended in the Nosology, for the sake of uniformity. The column of the Register Book for the entry will contain *about ten words*.

"(2.) Write the causes of death in the order of their appearance, and not in the presumed order of their importance.

"(3.) The duration of primary and secondary diseases in these returns will always be considered to imply the time intervening between the first appearance of well-marked characteristic symptoms and death. Small-pox, scarlatina, erysipelas, typhus, and all febrile and inflammatory diseases, should, however, be dated from the rigors and first symptoms, not from the latter appearance of the eruptions, &c. The time in the certificate, opposite the primary disease, will therefore include the whole term of illness. Thus: 'Scarlatina maligna, 21 days; purulent infiltration, 7 days, (P.M.);' implies that the earliest symptoms of scarlatina occurred 21 days before death; and that 7 days before death purulent infiltration was observed. So, 'Hooping cough, 16 weeks; paralysis of motor nerves, right side, 4 weeks; pneumonia, 3 weeks,' is understood to mean that symptoms of the cough appeared 16 weeks, of the paralysis, 4 weeks, of the pneumonia 3 weeks before death. Confusion has been produced in some returns by inattention to this point.

"No attempt should be made to guess the duration of *latent* stages of diseases; but it will generally be possible to fix on a point of time near the access, when the patient had *no symptoms* of disease, and another, when the symptoms were unequivocal: if the disease be dated from the middle point of the intervening time, the results will be sufficiently accurate. The duration should be stated in *minutes* or *hours*, when the disease is fatal in less than 48 hours; in days, in diseases of less than 50 days' duration; in weeks or years, for diseases of still longer duration. *Month* is an equivocal term, as a *measure* of time; when used in the returns, it will be deemed the *twelfth* part of a year.

"(4.) State, in fatal cases of small-pox, measles, scarlatina, typhus, rheumatism, mania, delirium tremens, apoplexy, and the like diseases, whether it be the second, third, &c., attack, when-

* Page 76.

ever the patient has sustained more attacks than one. In ague, epilepsy, convulsive diseases, angina pectoris, syncope, and other maladies which occur in fits or paroxysms, date the illness from the first fit; and add the duration of the last fatal fit; thus: *epilepsy*, 5 *years; last fit*, 6 *hours.*

"(5.) Surgeons, in all cases of operations, should return (*a*) the primary disease or injury—(*b*) the operation—(*c*) the secondary diseases—such as erysipelas, purulent deposits, &c.; and should state also the time from commencement of the primary disease—the time from the operation—and the time from the appearance of secondary disease, *reckoning in each instance to the death.*

"(6.) It sometimes happens that the nature of the fatal disease cannot be discovered—even after a *post-mortem* examination of all the organs—and still more frequently in the absence of an examination.—*In such cases it is better to name one or more of the leading symptoms and peculiar appearances*, than to assign a specific cause on imperfect, or inadequate evidence. P.M. should be added when the causes of death have been verified by a post-mortem inspection.

"In order to be in a position to return the causes of death accurately, medical practitioners are earnestly recommended to keep brief memoranda of all the cases which they attend, in the simplest form, such as is given below. The private register of a medical practitioner would, at the end of a few years, be of incalculable interest to him: he might refer back to it for important information, transmit it to his sons or successors in practice, analyse the results of his experience; and, in conjunction with his brethren all over the country, would ultimately accumulate a vast series of materials which could not fail to advance medical science.

"Engaged in the practice of a laborious profession, medical men should not attempt too much at first; all cases should be noticed; but those facts should be chiefly recorded which are of an unequivocal nature, and that admit of precise statement, and comparison in respect to number, time, weight, and measure.

| No. | Name of Patient, and Residence. | Sex. | Age (last Birthday.) | Profession; Habits. | Diseases. | | Dates of Important Facts in the Case; and of the resulting Recovery or Death. |
|---|---|---|---|---|---|---|---|
| | | | | | Primary and Secondary. | Date of their Appearance. | |
| 1* | J. J., 7, Drury Lane. | M. | 7 | A Day Scholar; (father a master tailor) | Measles; Pneumonia. | March 5 March 12 | Patient first seen *March* 9; the eruption of measles then visible; appeared on the 8th; cough, rust-coloured sputa, crepitation, 12th; left lung consolidated, 14th; last seen, March 19th; *died March* 20. P. mortem: left lung hepatized: pleura adherent. |

"The importance of instituting *post-mortem* examinations very generally cannot be too strongly urged. *It is impossible to calculate how much suffering and untimely death are occasioned by depriving physicians and surgeons of the information derivable from this source.*" pp. 12 and 13.

We have placed the last sentence in italics, because, in spite of all that has been said and written on the subject, post-mortem examinations are most grievously neglected. This must not be regarded as imputing censure to the practitioner; on the contrary, when, in a suspicious case of sudden death, he offers to make an inspection of the body, he finds himself too frequently thwarted by a coroner who refuses to see the necessity, when it entails a small expense on the county. The Registrar-General properly remarks, that the court of the coroner is a court of record to inquire, when any one dies in prison, or comes to a

violent or sudden death, *by what manner he came to his end.*

"It is stated by all the authorities in medical jurisprudence, that the causes of sudden deaths, often involved in great obscurity, can only be ascertained *by an inspection* of the principal organs. The body may have the same external appearance in death by apoplexy, syncope, aneurism, poison, or suffocation, and violence of other kinds; but if the death be distinctly traced to a disease by an inspection of the body, this at the same time determines 'by what manner' the person 'came to his end,' and with the usual collateral evidence, leaves no more room for suspicion of innocence than hope of impunity for crime."

This principle, however, it is well known, is but little attended to in practice, and a reference to the weekly table will now show that there may be sometimes as many as twenty-five inquests, in which the causes of death by the neglect of inspections are left undetermined, thus giving room for suspicion of innocence, and hope of impunity for crime*. As a very favourable instance of the evil results of holding inquests without post-mortem examinations, we may refer to the evidence recently produced before the Coroner, relative to the series of murders by poison, which have been going on quietly for some years past at Happisburgh in Norfolk. In some quarters, magistrates are beginning to apply a remedy by declining to allow expenses for inquests so *mis*-conducted. The view they are beginning to take of the matter is, that there can be very little use in instituting an inquiry where, from an extra-judicial knowledge of the facts,—a post-mortem examination of the body, and medical evidence, can be so very easily dispensed with!

* "An inquest was held upon it (a child), and Mr. C., the surgeon, attended and examined it. He did not make a *post-mortem* examination, and said the cause of death was spotted fever." Next we are informed, that the child had been buried several years, and they had now discovered the presence of poison.—*Times' report, June* 3. What a prospect of impunity for crime under such a system of holding inquests! See also case reported in the present volume, p. 76.

## Reviews.

*The Transactions of the Provincial Medical and Surgical Association.* Vol. XIV. 8vo. pp. 284. Churchill. London, 1846.

The fourteenth volume of the Transactions contains some valuable, and several very elaborate articles, but a large portion of its contents have a merely local interest, and can scarcely prove available to the profession generally.

Its principal contents are as follow:—

*The Retrospective Address* By Edward Charlton, M.D. &c. Delivered at the Thirteenth Anniversary Meeting of the Provincial Medical and Surgical Association, held at Sheffield, July 30th and 31st, 1845.

Dr. Charlton's address contains a report of the recent progress which has been made in the studies of Anatomy and Physiology, Pathology, Therapeutics, Forensic Medicine, and Materia Medica. The precise limits of the period to which this report has reference, are not precisely stated by the writer, but we apprehend that his remarks are principally intended to embrace new facts which were elicited during the previous twelve months. The article occupies sixty-two pages, and although it does not display such extensive reading as some preceding reports on medicine have done, it certainly embodies an interesting and valuable collection of facts. We think that the plan of collecting so many different subjects into one report, in great measure defeats the object which these addresses are intended to fulfil—namely, of giving a complete and accurate view of the facts recently discovered in each branch of knowledge. Did the Association adopt the plan of requiring distinct reports upon each branch of science, from men whose attention had been peculiarly directed to those topics, the addresses need not be more numerous or more lengthy than they are at present; but they would be more available for reference, and far more complete, than are those which attempt to discuss, within a very limited space, at least half a dozen leading branches of medical science. The next article is—

*The Retrospective Address in Surgery, for the Year* 1844-5. By Thomas P. Teale, Esq. F.L.S. &c.

Mr. Teale's report is remarkably well

arranged, and of course comprehends a great deal of valuable matter, but we should have been glad to find that the article was more extended, especially in respect to quotations from the works of recent continental writers on surgery. The generality of practical surgeons are well acquainted with the improvements which have lately been suggested in the art by their own countrymen, and they refer to articles like the present, especially for information regarding foreign practice. In this respect the present compilation is very deficient: we scarcely observe a single quotation from the German or Italian periodicals, and very few from the French.

*On Grinder's Asthma.* By CHARLES FOX FAVELL, M.D. Physician to the Infirmary, Sheffield.

The disease, or rather the train of symptoms, to which Dr. Favell's observations are directed in the present paper, has already been discussed by two physicians resident at Sheffield,—Sir A. Knight, now of Liverpool, and Dr. G. C. Holland. The object which Dr. Favell has peculiarly in view, in the present communication, "is to determine the pathology of grinder's asthma, or rather, perhaps, to exhibit the lesions of the respiratory organs which morbid anatomy most frequently reveals, in the persons of those who have fallen victims to the disease."

Dr. Favell has evidently devoted much care to the illustration of his subject; but we do not consider that he has been very fortunate in the arrangement of his materials, or that his data, derived from pathological anatomy, are either sufficiently ample or definite, or clear enough to establish the pathology of the disease; or rather, we should say, to connect the peculiar symptoms, which appear to characterize "grinder's asthma," with certain peculiar conditions of the respiratory apparatus. The author seeks to illustrate the morbid anatomy of this disease by the quotation of seven cases, in which the lungs were examined post-mortem. These cases are very imperfect, inasmuch as in most of them the rational symptoms of the disease are very slightly sketched, while its stethoscopic signs are not even alluded to. One or two are even still less complete; we shall quote one, and inquire of our readers whether its recognition as a case of grinder's asthma, must not be a matter of faith rather than of conviction from facts adduced:—

"Shepherd, a fork-grinder, and under the care of Mr. Thomas, in the Infirmary, on account of scrofulous disease of the knee-joint. The body was examined twenty-four hours after death. Right side, adhesions between the pleuræ, but not very strong; the lung did not collapse; colour natural; slightly emphysematous at the lower edge of the inferior lobe; in the upper lobe there was a portion which felt hard, and, on being cut into, it presented the appearance of circumscribed pulmonary apoplexy: the lower lobe tubercular; the tubercles advancing to softening. On the left side, adhesions between the pleuræ; the lung tubercular throughout, and a large cavity in the upper lobe. Bronchial glands somewhat enlarged and streaked."—(p. 168.)

This patient may have been long the subject of grinder's asthma, or he may not have had any symptoms but those of ordinary phthisis. His disease may have been attributable to the inhalation of irritating dust, or it, as probably, was secondary to the chronic disease of the knee. The report gives us no opportunity of judging which of these opinions is really true.

The principal morbid appearances observed by Dr. Favell in cases of grinder's asthma, were, Dilatation and inflammation of the bronchial tubes, emphysema, general distribution of tubercles throughout one or both of the lungs, tubercular cavities, adhesion of the pleuræ, enlargement of the bronchial glands, enlargement of the heart.

Scanty as the data appear to be upon which these observations are founded, they appear to give probability to the following conclusions:—

That the continued inhalation of irritating matters, by persons working in a constrained position of the body, and leading debauched and intemperate lives, has a tendency to give rise to great bronchial irritation, to produce chronic inflammation of the trachea, and dilatation of the bronchial tubes, with emphysema; and that the organs are thus rendered peculiarly susceptible of pneumonia and tubercular disease.

These cases afford still further confirmation of a fact which observation

has long decided in our mind—that emphysema of the lungs has no certain power of preventing the deposition of tubercle.

That the peculiar cough, dyspnœa, hoarseness, and dusky appearance of the countenance, which form the principal characteristics of grinder's ashma, are, in all probability, mainly due to the tracheal irritation, the dilatation and inflammation of the tubes, the emphysema, and the dilatation of the heart; states which are by no means proper concomitants of tubercular disease of the lung.

*On the Inverted Displacement of the Urinary Bladder. With a Case.* By John Green Crosse, Senior Surgeon to the Norfolk and Norwich Hospital.

In the year 1829, a colleague of the narrator received under his care a healthy-looking female child, aged between two and three years, on account of a tumor, about the size and shape of a walnut, projecting visibly at the external *labia pudendi*. It was of a florid red colour, and somewhat granulated upon its surface, so as to resemble a large strawberry; and the surgeon entertained a notion that it was a vascular tumor, which might be removed by ligature; on which account he requested Mr. Crosse to inspect it. Towards the posterior part of the tumor, and on its sacral aspect, there was an aperture which was conjectured to be the entrance into the displaced urethra. A very small catheter easily entered this aperture and passed along a channel a little to the left side of the median line: urine distilled in drops through the catheter, but there was not a gush, although the instrument had entered so far that it was concluded it must have reached the cavity of the bladder. Besides what thus oozed through the catheter, slightly tinged with blood, there was an oozing of urine from another source, which was not explained until a second and more strict examination, instituted a few days afterwards, on the writer's casually coming to the patient's bedside just as the surgeon was prepared to apply a ligature round the neck of the tumor. Mr. C. now found, concealed in a fold of the tumor, and near to the posterior junction of the labia, two orifices not far asunder, from which the urine oozed, and which were evidently the vesical terminations of the ureters. On pressing the tumor firmly, as if to reduce it like a hernia, Mr. C. found it yield and pass gradually behind the symphysis pubis, and within the labia, and, under a continuance of the taxis, it all retired, leaving the external parts in their proper state and position. A passage remained, through which the tumor, on retiring, had taken its course, which was actually the dilated urethra, into which the writer could and did introduce his little finger, until it fairly entered the cavity of the replaced bladder; for it now became clearly demonstrated that the tumor was the urinary bladder in its entire thickness, including its mucous, muscular, and peritoneal coats, prolapsed through the dilated urethra, and at the same time inverted. The proper lining membrane of the bladder became, in the progress of this displacement, the external covering of the tumor. As fast as the urine was secreted by the kidneys, it oozed from the terminating orifices of the ureters, which were concealed within a fold of the exposed surface of the tumor, and approximated to each other. The neck, or deepest and narrowest part of tumor, just concealed within the labia, was covered by the inverted lining of the urethra, the inversion being complete. In this instance, had a ligature been efficiently applied to the neck of the tumor, as was contemplated, the bladder would have been removed, including all its coverings, the ureters cut through just above their terminating orifices, and the peritoneal cavity largely opened, with a necessarily fatal result. As the friends of the child could not be applied to, the history was imperfect. It was stated that the tumor had existed for a considerable time, and always been attended with a stillicidium urinæ. Also that it had been once replaced, but descended again shortly before it came under Mr. C.'s observation. During the short period that the child remained under Mr. Crosse's notice, after the replacement of the bladder, there was no relapse; and since this account was sent to press, he has been fortunate enough to ascertain that the patient is still living, after an interval of sixteen years, and is a healthy young woman, save only

the affliction of incontinence of urine, with which she has been constantly troubled, but without any relapse of the vesical displacement.

Mr. Crosse refers to a case very similar to the above, occurring in a female child four years old, narrated by Dr. Murphy, in the MEDICAL GAZETTE for January 19th, 1833, vol. xi. p. 112.

Might not surgical means have been employed in Mr. Crosse's case, with a view to attempt reducing the dilated urethra to a natural calibre, and thereby relieving the incontinence of urine which, in all probability, depended upon this unnatural state of the canal?

The remaining pages are devoted to two reports:—one of "*The Reading Dispensary for the years* 1841, 1842, 1843, 1844, by CHAS. COWAN, M.D.;" the other a "*Statistical Report of the Surgical In-Patients of the Royal Berkshire Hospital*, from its Establishment, May 1839, to May 1845, by GEORGE MAY, Esq. F.R.C.S.E. The former of these reports has reference to 4,423 cases, the latter to 1,291. They are drawn up on an excellent plan, and with considerable care, evidencing the strict manner in which reports of the cases admitted are kept in those institutions. Several of the tables may be found useful to the inquirer who is desirous of information respecting the statistics of particular diseases, but we do not find that the compilers have deduced from them any particularly novel facts.

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*The Sick Chamber.* Small 8vo. pp. 60. London: Chapman, Brothers. 1846.

A USEFUL little essay, the object of which is to supply practical information to attendants on the sick. The writer has evidently had some experience, and possesses the power of conveying the necessary instructions in plain and intelligible language. The work is not intended for medical practitioners, but for the improvement of those upon whose knowledge of their duties the successful treatment of a case so often depends. The writer speaks feelingly, and gives a hint to professional men in the following passage, respecting the necessity for quiet:—"Knockers are a horrid invention of the enemy of all peace. Strange to say, medical men are often miserably incautious in this respect. Their knocks are frequently in the last degree distressing to their patients." p. 22. In our judgment, this will be found a useful little companion in the sick chamber.

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*The "Open Surgery" Question considered, and its General Adoption advocated.* By WILLIAM J. PRESTON, Surgeon and Apothecary. London: Odell, 1846. pp. 25.

THE writer of this pamphlet argues, that the adoption of the "open surgery" is an indispensable object in the reorganization of the profession. It is in this way only that medical men can render themselves accessible to all. His argument will perhaps be best understood from the following extract:—

"An artizan falls sick; he is afraid to knock at the closed door of the qualified man, such a summons being associated in his mind with expense beyond his means; and thus does (do?) protracted disease, and consequent loss of employment, involve him, and perhaps a family, in hopeless destitution. A poor but fond mother sees her child sickening for some disease; between her and the doctor there is interposed an all but impassable barrier. What are the alternatives? A dispensary, which pride forbids, and the druggist. Or, to take the case of one who is obliged to keep up appearances on small means, whose education is good, and whose feelings are refined, he knows the druggist cannot be safely trusted, and he cannot afford to pay a doctor; so, reluctantly, and with feelings of wounded pride, he applies for advice at a charity." p. 10.

The "open surgery" question, according to the writer, appears to be nothing more than the conversion of every apothecary's shop into a private dispensary? What is this but the "advice gratis" system under a new name? The poor man will reason that the open surgery keeper must be paid in some way or other, and that a dispensary will entail less expense upon him. With regard to his pride, it appears to us that it would be liable to be equally wounded in either case. The writer has, in our view, entirely mistaken the objection which has been made to the union of trade with physic. The deriving a profit from the sale of

medicines is now, we believe, universally condemned. It is generally admitted that, while a practitioner may supply medicine to his patients, he should derive his payment solely from the medical and surgical advice which he gives. There is nothing to prevent him from keeping an "open surgery," as suggested by the author, and giving advice to the poor either gratuitously, or at a cost which shall be exactly adapted to the views of those who desire to keep up appearances on small means. We do not believe that there is any intention of compelling every medical man to live in such a state of privacy as to prevent the humbler classes of society from applying to him, even supposing that they cease to crowd as they now do dispensaries and hospitals; and therefore, it appears to us, Mr. Preston has been combating a shadow. We entirely disbelieve that large masses "are pauperized in purse and spirit" by making application for relief to dispensaries; and nothing can be more absurd than to suppose that "open surgeries" can be substituted for these useful institutions with equal benefit to the poor. So far from wounded pride having such a devastating influence on the masses as the author imagines, we have known many instances of persons well able to pay a medical practitioner, crowding among the poorer applicants in order to receive advice and medicine gratis! Such cases must be within the experience of all who have attended the out-patient rooms for even a short period.

The author, evidently with a good motive, adopts a very perverse view of the question which he here discusses. Medical journalists, labouring under what he calls a "*pharmacophobia*," have strongly objected to licensed medical men keeping "open druggistries." The open druggistries objected to, have been, and are, employed for the sale of soap, perfumery, cattle medicines, and tooth-brushes; or, in the least objectionable instances, for the retailing of medicines irrespective of those prescribed by the practitioner for his patients. Such a system is derogatory to the profession, and has tended to degrade it in the eyes of the public. Admitting the necessity for establishing "open surgeries" such as the author advocates, we do not see how these can be prevented from degenerating into shops for the retailing of medicines and drugs to those who know "that the druggist cannot be trusted," and whose feelings of wounded pride will not allow them to apply for medicines to a hospital or dispensary.

While we condemn the hazy and undefined view which the author has taken of this part of the subject, we must commend some of the rules which he has proposed, towards the conclusion of his pamphlet, for the improvement of the profession.

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*Jahresbericht über die Fortschritte der gesammten Medicin in allen Ländern im Jahre* 1843, 7 *Bände: im Jahre* 1844, 3 *Bände, herausgegeben von* Dr. Canstatt *und* Dr. Eisenmann.

*Annual Report on the Progress of the Medical Sciences in all Countries, for the years* 1843-4. Edited by Dr. Canstatt and Dr. Eisenmann. 10 vols., large 8vo., 2,824 pp. Ferdinand Enke, Erlangen. 1844.

This stupendous work, covering nearly three thousand large octavo pages, in closely-printed German type, consists, as its title implies, of a series of elaborate reports, not merely on the special and general subjects strictly connected with medical science, but on medical geography and medical literature, There is nothing local in its character. The contributors of the various reports, among whom we may especially notice Henle, Valentin, Scherer (the successor of Simon in the section of Chemical Pathology), Albers, Von Siebert, Eisenmann, and Nasse, have spared no pains to examine, each in his own department, not only the journals, but the standard works, published during the years 1843-4, in the principal countries of Europe; and they appear to have executed their task so well that we recognize in many places old friends in the shape of facts and cases, from English publications, which we never expected to meet with in a German dress.

The first volume comprises physics in relation to physiology, descriptive anatomy, anatomy of the tissues, physiological chemistry, physiology, phrenology, psychology, and anthropology; the second—pathological anatomy, pathological chemistry, general pathology, and medical geography; the third—pathology and diseases of the

brain and nervous system (psychiatria), ophthalmology, the pathology and diseases of the skin, diseases of the osseous system and orthopædic surgery, special pathology of the cellular membrane and organs of respiration, of the teeth, the chylopoietic viscera, and male sexual organs; the fourth—surgery, acute and chronic diseases, gynæcology, diseases of children, and midwifery; the three last volumes are devoted to pharmacology, pharmacognosy, pharmacy, toxicology, operative surgery, veterinary medicine, and medical jurisprudence. Of the series for 1844, treating of the same subjects, in a similar order, we have at present only three volumes before us.

A work of this description does not fall within the scope of a review. It is itself a review or retrospect of all that has been done to the advancement of medicine by the united labours of many hundreds of persons in different countries. The subjects appear to us to be in some instances unnecessarily subdivided, and they follow each other without any particular regard to order or arrangement, which is, in some measure, a disadvantage for reference. From our examination of these reports, it appears to us that they bear about them the marks of careful research. They are, in all instances, from the hands of experienced men, each alive to the progress everywhere made in his own favourite branch of science. While a sort of abstract is given of the most important English and French medical works, it is easy to perceive that the reporters have made very copious extracts from works which they have themselves published. This is a natural failing, for which it is easy to account; but, in some instances, it has been carried so far, that the article appears like a condensed edition of the author's work.

In all extracts, the reporters deal fairly with respect to authors and journals. Copious references are given; and the medical bibliography is very full, and, so far as we can judge, very correct.

It is marvellous how such a stupendous work as this can be remunerative either to writers or to publishers. A work of this description, although it may be profitably consulted by all who take an interest in the progress of scientific medicine, is only likely to find readers among a very select class, more especially those who are seeking materials for authorship. To the readers of English and French journals many of the facts will be old and familiar, for it is obvious that a considerable time must elapse before they can be moulded into a shape fitted for publication in this form. There is no department of medicine, however, in which some useful information will not be found; and the collection in one group of a number of analogous facts from all sources, tends to aid the mind in generalizing, and to remove those false impressions which are so apt to arise from limited observation. To all men given to the cultivation of medical literature, we need hardly say that this "Jahresbericht" will be most valuable; and we think it is a work which should find a place in every English medical library.

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### TREATMENT OF EPULIS BY THE APPLICATION OF POTASSA FUSA.

In that disease which we call epulis, a red tumor that looks like the gum, and which becomes connected with it (though I believe that it really has its origin in the alveoli) you may use caustics with great advantage. It is in vain to destroy the outer part of such a tumor—that is, the part connected with the gum—unless you also destroy the inner part, where it originates in the alveolar process also; and, from the surgeon not being aware of this circumstance, I have, in several instances, known repeated operations with the knife, as well as the application of the hot iron and caustics, fail. The caustic which I find, in general, the most convenient in these particular cases, is the *potassa fusa*. You must fix it at a right angle to the end of a pair of dressing forceps, and secure it well by tying thread round it. The caustic should be scraped small enough to enter the alveolus, the tooth having been previously extracted. Having thus destroyed the disease where it originated, you may afterwards apply the caustic to the other portion which is connected with the gum. At the same time, you must let your assistant hold open the cheek; and, while you apply the caustic, he must have at hand a brush, which he is to apply whenever the caustic spreads further than you intend it. I do not recommend this kind of treatment in the case of a large epulis, in which it will probably be necessary to take out a portion of the jaw; but it is perfectly applicable to many cases in the early stage of the disease.—*Sir B. Brodie's Lectures on Pathology and Surgery.*

## Medical Trials and Inquests.

### CASE OF ALLEGED CHILD-MURDER.

A YOUNG female in the service of Mr. Nesham, Surgeon, at Newcastle, has been charged with the murder of her infant child. The facts which transpired at the inquest were as follows:—

Mr. Nesham stated that the prisoner had been a year and ten months in his service, having been first engaged as a wet nurse. He had for some weeks suspected that she was pregnant, and on the morning of the 13th inst. made inquiries into her state of health. Her answers were totally at variance with his suspicions, but he was still in doubt. In the forenoon, she retired to bed unwell; and at night, she being still in bed, he taxed her with being in the family-way. She denied the imputation, and submitted to a scrutiny. A very slight examination convinced Mr. Nesham that she had given birth to a child within twenty-four hours. She was much agitated when her master charged her with the fact, but did not deny it. The child fell from her, she said, at daybreak, when she happened to be out of bed. When she took it up it was dead, and she put it down the water-closet. Mr Nesham said this could not be—the body could not pass. She next told him it was under the bed. He said to her he hoped she had used no violence to the child. "O, sir," she replied, "you will see." He found the body of a male child wrapped in a rug—the throat cut, and a penknife lying on the breast. He asked her what could have induced her to add so horrible a crime to that of concealing the birth of her child—especially if, as she had told him, the babe was dead-born. She said that she had taken the knife to cut the navel-string; and at that moment, wheu she saw the consequences of her sin and shame, such was the state of her mind that she knew not what she was doing. He inquired who was the father of the child; and she told him that she had formed an intimacy with a fisherman at Newbiggin, last summer, when the family were at the sea-side. The knife, she said, was her own.

Mr. Carr (examined by the coroner) deposed that on the 15th inst; he made a *post-mortem* examination of the body of the deceased, in the presence of Dr. Embleton. The child was newly-born, and apparently full-grown. No decomposition had taken place. The body was smeared with blood in various places. The portion of the navel-string remainingwas about seven inches in length, and appeared to have been cut off with a blunt instrument. It was likewise half-cut across within an inch from the end farthest from thebody. The bones of the head were unusually separated and open, and might easily have been made to overlap each other. There was a long gaping wound, three inches in length, n front and on the left side of the neck. It extended from behind the left ear, downwards and forwards, across the neck. It was a cut wound—or rather the result of several cuts, as the jagged edges of the right end indicated. It divided in its course the great blood vessels and nerves of the neck, the windpipe, gullet, and muscles. Below this wound, and merely seperated from it by a narrow band of skin, there was another, which went down to the windpipe, without opening it. There were also some other trifling cuts below and to the left side of this, which only divided the skin. These were all the marks of violence on the body. On opening the head there was extravasation of the blood in numerous points, under the scalp and in the bones. The brain contained very little blood. There was slight congestion of its membranes. Except this the brain was healthy. On examining the chest the lungs were seen only partially distended by the air. They occupied principally the back part of the chest. The right lung was larger and more distended than the left. They both crepitated, but not strongly; or, in other words, they yielded a peculiar crackling sound under pressure, indicating the presence of air. They both floated readily in water, but the right more buoyantly than the left. The heart was pale. Its cavities were empty, and also the great vessels at its base. The stomach was small and contracted. Nothing was found in it to indicate that anything had been introduced. All the other organs of the body were healthy. From the appearances which he had described, he was of opinion that the child had breathed, but only for a very short time. It might be proper here to state, that so long as a child was dependent on its mother for its supply of blood, there existed a peculiarity in the circulation—which underwent a change at birth, and was soon obliterated. That peculiarity, in the present instance, still existed; and hence he inferred that the child had breathed only a short time. If it had breathed any length of time the lungs would have fiillled more of the cavity of the chest. He thought it more than probable that it was born alive. It had certainly inhaled air. The wounds in the throat were in his opinion the cause of death.

By the jury (chiefly by Mr. G. Hunter): It was possible that the portion of air which the child had breathed was inhaled before it was fully born. It was also possible that when fully born the child was dead. Such was more likely to be the case where the mother had no assistance than when she had assistance. If the child was born with life, the wounds were the cause of death. The appearance of the fœtal circulation was not entirely gone. Wounds, such as those de-

scribed, would have much the same appearance, whether inflicted during life or immediately after death. He hardly thought there were sufficient marks of injury in the head to render it likely that the child died from a fall on the floor. The stun from a fall might cause death in so frail a subject.

By Mr. W. L. Harle: By "born alive" was meant that the child was alive when wholly from the womb. Whether the lungs were fully distended, and filled the whole cavity of the chest, depended upon how long a child had breathed. It did not follow that there should be full distension, if there had been but a few inspirations. He thought that the prisoner's child had breathed only a few times, and it might be that this was before it was fuliy born. Further than this he could not go. He was not prepared to say, from lhe appearance of the fœtal circulation, that the child had had a separate state of existence. He had never seen a child born alive with the bones of the head so open. Courts of justice did not now place much reliance on what was called the "hydrostatic test"—the floating or sinking of the lungs in water. As far as he was able to judge, the child had arrived at maturity; but he could not speak to two or three weeks.

The coroner inquired if there were any other witnesses for examination, and was informed that Mr. Nesham and his domestics would give evidence, if required. Their statements, it appeared, would amount to this:—That no noise was heard in the house during the night, although one of the servants had occasion to be astir at the time that the prisoner gave birth to the child. The jury however, thought it unnecessary that other witnesses should be sworn. The coroner therefore proceeded to address them. He called their attention, first, to the evidence of Mr. Nesham. On the Wednesday morning, at which time she had given birth to a child, she had assured that gentleman of facts which were utterly inconsistent with her having been pregnant. Afterwards, on the same day, she denied that she was in the family way; and when the discovery was made that she had been delivered, she made a false statement as to the manner in which she had disposed of the body. When, at length, she confessed where she had put it, the throat was found to be cut, although she had previously stated that the child was dead-born. From the evidence of Mr. Carr, it was certainly possible that the child was not born alive; but, however that might be, the jury were in his opinion bound to send the prisoner before a higher and more competent tribunal. When a child had come to maturity, and was found dead, with wounds or other marks of violence on its body, the presumption of murder was strong; and in the present case there was not only one cut—there were several. The body was also found wrapped in a rug, and put away under a bed. Taking all these circumstances into consideration, and bearing in mind that they were not trying the prisoner for her life, the jury, he repeated, were called upon, in his opinion, to return a verdict which would send her before another tribunal. But if they were convinced that the child was born dead, then, of course, it would be their duty to return a verdict accordingly.

At the close of the coroner's charge, the jury were left to themselves, and remained an hour in deliberation. The coroner was then recalled, and the foreman (Mr. James Wallace) returned a verdict of *Wilful Murder*.

The coroner then made out a warrant for the committal of the prisoner for trial at the assizes.

The prisoner is about twenty-six years of age, and a widow. The deceased was her second child.

Since the inquest was held, an important discovery has been made. A fellow-servant, in seeking out a change of linen for the prisoner, has found several articles of baby-linen among her clothes, with also a quantity of new flannel and calico, evidently intended for the expected event. There is likewise reason to believe that she had not gone her full time, but had, as she calculated, two or three weeks in which to complete her preparations. She was an excellent servant, and much respected by her master and mistress for her general propriety of manners and good conduct.—*Gateshead Observer.*

*** The manner in which this investigation was conducted reflects great credit upon the coroner and jury. The questions put to the medical witness shew that they were fully aware of all the difficulties which surround medical evidence on these occasions. The defence will evidently be made to rest upon the assumption that the few respirations of which signs were found in the lungs, took place before the whole of the body of the child was born into the world: our courts of justice are not competent to decide upon the value of the hydrostatic or any other test. This is left to the discretion of the medical witness.

## Proceedings of Societies.

### SOUTH LONDON MEDICAL SOCIETY.

May 28, 1846.

EDWARD COCK, ESQ. IN THE CHAIR.

MR. C. TAYLOR related the following case:—A lady, æt. 30, of weakly constitution,

had her first child three years and a half since, which she suckled for 16 months, since which time the catamenia have appeared regularly until the beginning of last December, when they were absent rather more than five weeks, when a slight sanguineous discharge appeared for about twelve hours, and has since taken place every two or three weeks, lasting a few hours. In the beginning of May last, the patient believed she quickened, and since then there have been discharges of a watery nature dribbling away for many hours. On external examination of the abdomen, the uterus is felt enlarged nearly as high as the umbilicus, and the movements of the fœtus are felt; there is a secretion of milk in the breasts; the recumbent posture, sedatives, and astringents, were tried without avail. Mr. T. wished to ask the members present, their opinion of the nature, further treatment, and probable result of the case: he thought if it was liquor amnii discharged the labour would have come on before this time.

Mr. Waterworth argued that, without a vaginal examination, the case was not satisfactory; he had seen similar discharges; he had no reason to think there was any disease to account for them, and they had ended favourably. In the instances which he had observed the women were not pregnant.

Mr. Remington suggested that hydatid disease might be present; he had known this occur without much derangement of health.

Mr. Waterworth related the following case of labour to which he had been called by a friend a few days since; the membranes were ruptured, and the breech presented. On examination a tumor was felt towards the sacrum, impeding the descent of the child; the finger could be passed beyond the tumor, which was yielding, and about the size of a man's fist, situated between the right ilium and the sacrum; in two hours another examination was made, when it was found that the tumor was gone, and the child was born without any difficulty. Two days afterwards there was extensive ecchymosis over the sacrum, extending down to the right labium; an opening was made, and a large quantity of firm coagula was removed; the tumor had been supposed to be an enlarged ovary, but it was evidently an effusion of blood which had afterwards made its escape between the rectum and vagina.

Dr. Chevers inquired as to the existence of piles or a varicose condition of the neighbouring veins, and alluded to cases of fatal rupture of veins of the vagina occurring during pregnancy.

Mr. Cock mentioned the occurrence of hæmatocele without any apparent cause.

Mr. Hicks did not consider that an enlarged ovary could get into the cul de sac between the rectum and vagina, and inquired of Mr. W. how he would act in a similar case.

Mr. Waterworth saw no objection to pass in an exploring needle, which was intended in the above case.

Dr. Chevers alluded to the fact that a diseased ovary may become displaced and fixed by adhesions in the cul de sac between the uterus and rectum, where the enlargement of the pregnant uterus would tend to press it lower down. He cited Dr. Lever's cases of ovarian tumors in this situation impeding parturition.

Mr. Waterworth related a case of impetiginous eruption which he had lately seen in a child; it had existed about six months, and covered the whole surface of the body; the patient was much out of health, and anasarcous; the case had been treated under a physician by tonics, iodide of potassium, &c. without relief. Mr. W. advised the child to be taken into the hospital, but ordered a little soda with tinct. of hyoscyamus three times a day; on seeing the child five days afterwards, the eruption and general health had much improved; the former would, if equal progress went on, be well in a few days: the case appeared to show the inutility of stimulants and irritants without attention to the state of the secretions.

Mr. Hicks agreed that such cases were often connected with morbid irritation of the mucous membranes; he had found in such cases the appetite grew worse instead of better under the use of tonics.

Mr. Cock alluded to the papular rash which follows the use of iodide of potassium, and Mr. Remington referred to the question of persons growing fat under a course of that medicine.

Mr. Collambell considered the papular rash an index of the extent to which the medicine might be carried; it should on the appearance of this be left off for a time; he objected to the combination of iodine and mercury as producing excessive prostration.

The discussion then turned on the utility of these medicines, especially in periostitis, and on the extent to which their administration should be carried.

The Society then adjourned until October.

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## ROYAL COLLEGE OF CHEMISTRY.

**Wednesday, June 3d, 1846.**

The first evening meeting of the members of this Institution was held at the rooms of the College, Hanover Square, on Wednesday, the 3d inst.

The meeting was very numerously attended. The Earl of Clarendon, one of the Vice-Presidents, was requested by the Council to take the chair. His Lordship began

by expressing his regret that the meeting was not presided over by one better acquainted than himself with the science of Chemistry, or who had been able to devote more time to the objects of scientific importance, and general utility, contemplated by the original promoters of the Institution. He proceeded to state that it required but a slight knowledge of what was doing in other countries, and the commonest observation of what was not doing in our own, in order to convince us of our inferiority in the science of Chemistry, and to stimulate our exertions for removing that which, with respect to the intellectual eminence of England, her wealth, and the general encouragement given to art and science, he could not but consider a national evil, and for repairing as speedily as possible the national loss which any further negligence of Chemistry would entail upon us. The idea of founding a College of Chemistry had originated with some eminent agriculturists who felt that the body to which they belonged stood in as much, perhaps in more need than any other, of the aid of organic chemistry, in order to enable them to understand the economy of vegetable life, and to place the practice of farming upon a scientific basis; but other persons connected with different branches of productive industry had not been behind them in recognising the extensive relations of the sciences of Chemistry, and the necessity of an institution where students might devote themselves to acquiring the skill indispensable for its successful practice, and for promoting its application to the improvement of arts and manufactures. A Provisional Council had been accordingly formed, which held its first meeting in January 1845, and which for some time devoted itself to publishing its design in papers addressed to persons influential in society, to scientific bodies, and to the various interests likely to be promoted by the advancement of chemistry. Their publications were responded to from all quarters, whether by men of science and artists, by agriculturists, geologists, miners, and manufacturers, in a manner which left no doubt on their minds of the vast national benefit which the study and practical application of the science would confer. Thus encouraged, the Council could feel no hesitation as to the desirableness of affording every facility to young men wishing to make themselves scientific chemists, and thereby creating for themselves a profession, as these young men when duly qualified would not fail to find employment as teachers in Schools or Colleges, and as directors of manufacturing, farming, and mining establishments, whereby not only would individual interests be promoted, but both in England and throughout her numerous dependencies the national character for science would be raised and the natural resources developed. But in this, as in most other things, the first step was the arduous one; novelty did not always charm, and the public would at times view with coldness even the soundest projects of which they might not see the full bearing or believe the ultimate success. The College accordingly had had its difficulties to contend with, and it had required no ordinary tact and perseverance to stimulate into active co-operation that apathy, not to say aversion, with which people in general viewed demands upon their time, their attention, and their purses. Even those most interested in the success of any new system were not always the foremost in coming to its assistance; an example of which he might cite in the School of Design, which though now, he hoped, in a state of vigour and health, had had a long and sickly infancy to struggle through, and yet nothing at the time of its establishment had been more wanted, or was likely to prove of greater advantage in several of our leading manufactures.

Of this he had had a proof when he was a member of the mixed commission, which, some years ago, met at Paris, with the object of placing the commercial relations between France and England upon a more satisfactory footing, and when one of their first inquiries had been respecting the cause of the undoubted superiority of the French manufactures, particularly those of Lyons, over our own in all matters involving taste, composition, design, and colour, and they found that at Lyons there were regular schools where young men were taught anatomy, in order that they should obtain true ideas of proportion; drawing in every branch that would lead to correctness of form and beauty of design; and chemistry, that they might understand the art of dying, and the durability and combination of colours. They found, moreover, that when the education of these young men were completed, their services were eagerly sought after by the manufacturers, and that in the direction of great establishments they at once obtained honourable and lucrative employment. The Commission then naturally inquired what means were adopted at Coventry to meet the competition—a competition loudly complained of, it would be observed—created by all this intellectual as well as mechanical activity at Lyons; and they were told that there was an old man who, when sober, occasionally furnished a pattern, but that nearly all the figured designs were copied from the French. A better order of things now existed in that great manufacturing city; but as the obstacles and indifference which the school of design had had to encounter only added another to the many

existing proofs of how difficult it was to establish new systems, and eradicate old habits, he thought that the Council, seventeen months only having elapsed since their first meeting was held, had good reason to congratulate themselves upon the success of their labours, and the wisdom of their determination at once to open the College, relying upon its immediate results for future and efficient public support.

It was to be borne in mind that this was the first school in England where the whole time and attention of a qualified professor was given to the student, or where practical teaching was systematically pursued, and at fees so moderate as to render the school accessible to students possessing but the humblest means of obtaining education. The method also which had been adopted was not one which admitted of doubt or which still required the test of experience, for its success had been completely established, and it had already produced most important results under Professor Liebig at Giessen. He could not help on that occasion expressing his satisfaction that the council had been able to induce Dr. Hofmann, the Professor-Extraordinary of Chemistry in the University of Bonn, and formerly Assistant to Dr. Liebig, to accept the Professorship at their College. His name and character, his high testimonials from the eminent among his own scientific countrymen, his important researches, his practical talents, and his published works, at once proved that the College was a reality, assigned to its locus standi in the country, and placed beyond the reach of doubt the ultimate success of every object contemplated by the institution.

Lord CLARENDON then read some extracts from a satisfactory and highly encouraging report of the Council, shewing the numbers of the pupils, the classes in society to which they belonged, &c. He would, in conclusion, add that the time at which the College had been established was singularly fortunate, and would almost seem to have been selected with prophetic accuracy, for the abolition of the Corn-Laws and the establishment of Free Trade—by some thought very wise, by others very rash—must by all be admitted to constitute an era in the annals of our industrial history, and a system calculated, nay certain, to call forth the energies and to stimulate the productive power of the country: in all things they were about to compete with all men, and they started in the universal race, admitting that in one thing—second to none in importance when the character of the contest was considered, viz.: the Science of Chemistry—they were at a grievous disadvantage with many of their most formidable agricultural and manufacturing competitors. He could not, then, but consider the College of Chemistry as a Godsend at such a moment as the present, and that it was a duty—individual as well as national—to encourage and foster, and even to urge on, an institution better calculated than any other means they possessed, cheaply, speedily, and effectually to diffuse over the country, and to circulate into all the branches of its productive industry, the very knowledge of which they stood in most need, and the practical application of which was most certain to lead to beneficial results. The recognition of this had been amply testified by the names of those who had enrolled themselves as members of the College, and by the various classes of society from which pupils had already been furnished. That a purpose so great and good should for one moment be arrested for want of pecuniary assistance he would not believe. He could not bring himself to doubt that when the objects they contemplated, and the mode in which they were carried out, become generally known, they should form no exception to that rule of munificence which, in this country, would always be relied upon for promoting the knowledge, and improving the health, the comforts, and the social condition of the people.

An address was then read by the Secretary, explanatory of the method of study pursued in the laboratory, which it appears is framed upon the mould of that employed at Giessen, by Liebig, and consists of a systematic course of mental discipline and a technical introduction to the science and to manipulation. Although only seven months have elapsed since the commencement of the practical school, results have been already obtained of great importance to the arts, especially those relating to various kinds of colonr manufacture; and scientific investigations have been instituted, promising greatly to extend our knowledge of nature's productions and laws.

A paper was also communicated from Dr. John Davy, dated from Barbadoes, on the Uses of the Microscope in Chemical Researches. The institution was described as in a very flourishing and satisfactory state, and much enthusiasm was expressed by the meeting.

We here subjoin the paper communicated by Dr. Davy.

*On the Use of the Microscope as an Aid in Chemical Inquiry.* By JOHN DAVY, M.D. F.R.S. Lond. and Edin.; Inspector-General of Army Hospitals.

THAT the microscope may be an important aid to the chemical inquirer I believe will be readily admitted by all those who have made trial of it, if tolerably familiar with its use, and in the habit of employing a good instru-

ment. This last condition is essential. To be eminently useful in research, an instrument of the best construction should be employed—an achromatic one, with a magnifying power of at least three hundred diameters.

Such an instrument may be considered as a new power to the chemist; making clear what was obscure; allowing him to distinguish by sight what, without such aid, he could determine only by complicated processes of analysis; enabling him to distinguish in a mixture of animal and vegetable substances various tissues and forms, and often in an instant satisfy himself of their nature; and equally so to satisfy himself by simple inspection, whether in the preparation of chemical substances, either by sublimation or precipitation, they are pure and unmixed, or impure and mixed with saline matter or substances of a different kind thrown down or sublimed at the same time.

Taking this view of the application of the microscope, I cannot but think that the time is not far distant when the philosophical chemist will require it as much as, and even more frequently, than the balance; and that the one will be considered as essential to a laboratory of research as the other; and to the inquiring traveller, limited as to apparatus, more useful than any other single implement that can be mentioned hitherto attainable.

It may not be amiss to give a few examples for the purpose of illustration; making a selection from instances which have come under my own observation, some of which may be new.

Preparatory to entering on a chemical examination it is a desideratum to become generally acquainted with the nature of the subject of it. Such preliminary information, the microscope is admirably fitted to afford.

It is a disputed point whether those peculiar, and, in many respects, singular birds,—the humming-birds,—feed on insects or the sweet juices of flowers; some naturalists maintaining that they live exclusively on the one, others that they live exclusively on the other. By repeated observation, first microscopical, afterwards chemical, made on the contents of their minute stomachs, I have ascertained that insects are the solid food, and that the sweet juice of the nectary of flowers is the ordinary drink of these birds. The tongue of the humming-bird, projectile and bifid, is peculiarly fitted for taking insects, and when moist with a honied viscid lure, its power is even increased. In every stomach of this bird that I have examined I have detected with the microscope parts of insects, and sometimes entire and living ones; and I have found their remains also in the lower intestine.

Another instance may be given from the urinary excrement of insects. In the majority of cases in which I have examined this excrementitious matter, I have found it to be principally the lithate of ammonia, commonly in the form of granules, little exceeding in size the blood-corpuscles of man. In one instance, however—that of the excrement of a small night moth, subjecting it first to microscopical examinations—there were observed, mixed with the granules, well-formed crystals, resembling those of lithic acid, and which were proved to be of lithic acid by their chemical qualities, testing them chemically, and observing the results with the same power, for they were far too minute even to be seen with the naked eye.

Soils, sands, marls, afford other good examples of the use of the microscope as a preliminary to chemical examination.

Amongst the valuable deposits in the island of Barbadoes, distinguished for its extraordinary fertility, which it owes mainly to the nature of its soils, are beds of calcareous marl. Under the microscope, this marl appears to be almost homogeneous, except that amongst the molecules of which it is composed minute crystals are to be seen—short slender prisms, as of phosphate of lime; and chemically examined, it is found to contain phosphate of lime, its chief ingredient being the carbonate, with a trace of silica.

The fertile soils of this very fertile island have been supposed to be deficient in this last mentioned substance. When subjected, however, to the microscope, the opinion is shown to be erroneous. In most of them silica is found in abundance either in the form of fine quartz sand, bearing marks of being water worn, or in excessively minute angular fragments, probably of volcanic origin, or as the petrifying matter of infusoria. And chemical examination confirms this, proving, in addition, that silica is largely present in combination with alumina.

The sands of Barbadoes vary much in their nature according to the situation in which they are found. The sea-sand, from two-thirds of the shore constituting the circumference of the island, consists of comminuted shells, water-worn, with very little siliceous or other matters, forming a valuable material for the purposes of agriculture, although hitherto little used. From the remaining one-third of the shore, viz. from the north-east coast, the sand is a mixture of quartz, in water-worn grains, and of comminuted shells, the former preponderating. The shell-sand corresponds to one kind of geological formation, the siliciousto another; the one peculiarto that part of the island, the greater portion of it consisting of calcareous deposits abounding in

marine organic remains; whilst the silicious sand corresponds to the smaller portion, formed of totally different deposits, partly chalk containing silicated infusoria, partly, and in larger proportion, of clay, sand, and gravel, more or less cohering, with which beds of coal are intermixed, the former seemingly the detritus of primitive and transition rocks. Under the microscope, using a low power, the appearance of these two kinds of sand is distinctive. The shell-sand is merely diaphanous, whilst the quartz sand is transparent, not to mention other peculiarities; and in mixture, the grains of each are most easily distinguished, so that even without chemical examination, on mere inspection, it may at once be pronounced which ingredient is in largest proportion. The same decision from the like inspection may be confidently made on some of the sands at a distance from the coast, which consist almost entirely of silicious matter, without any traces of comminuted shells: and, in each instance, chemical examination is found to be confirmatory of the microscopical.

I shall pass now to some instances of a different kind. The unaided vision, as it is well known, cannot distinguish with sufficient exactness, precipitates of different substances by their appearance, when they are colourless, as those of the different earths, whether thrown down in the state of hydrate or in combination with an acid. But, calling in the aid of the microscope, the distinction can often be made without difficulty; and, if not at once, it can be made with little trouble by the addition of an acid, of one the combinations of which with different earths, under the microscope, have appearances that are characteristic of them.

Alumina and phosphate of lime, the one an almost universal ingredient of soils,—the other a rare ingredient, excepting in an exceedingly minute quantity, are, as is well known, both precipitated from solution in acid by ammonia. To determine which constitutes the precipitate, so important in relation to agricultural purposes, is a difficult matter, employing merely chemical means as tests, unless in a well appointed laboratory. But with the aid of the microscope the difficulty vanishes. Seen with it, the precipitate of alumina, owing to its excessive subtilty and the low refractive power of its particles, has a hyaloid appearance, while the other has a very fine granular aspect. The addition of a drop of dilute sulphuric acid will make the appearances even more distinct. If the precipitate is entirely aluminous, it will have a glacial appearance, and on evaporation to dryness this appearance will be retained, the crystallizations formed being not unlike those of ice in their general character; whilst, if the precipitate is of phosphate of lime, immediately on admixture with the acid, if properly proportioned, needle crystals will be seen to be formed, short slender prisms, and on evaporation the same crystals will appear in increased quantity mixed with some delicate rhomboidal plates. And, in the instances of mixed precipitates by ammonia of alumina, and phosphate of lime, according as the one or the other predominates, will be the proportion in which the one or other aspect will be imparted to the mixture. And should phosphate of magnesia be present in admixture with alumina and phosphate of lime, it may easily be detected under the microscope; before the addition of the acid its well marked crystals will be seen, which after that addition will disappear.

As my object is chiefly to draw attention to the application of the microscope as an aid to chemical research, the instances adduced, I trust will be considered sufficient in the way of illustration; very many more might be given, but they would be out of place on this occasion. Were they minutely detailed they would be tedious; and were they only briefly adverted to, practically they would be useless. The subject to have justice done to it would require a distinct treatise, founded on laborious research, and giving the results of such research; and it is one, of which it may confidently be predicated, that it would amply repay whatever time, whatever labour might be expended on the undertaking.

In conclusion, this, it appears to me, may justly be said in commendation of the microscope, in all its applications,—that its tendency is equally to facilitate and increase accuracy of observation; and, hence to remove vagueness and give precision of views; and at the same time to add wonderfully to the interest of inquiry and to intend its sphere. In this respect having an influence in relation to subjects for chemical research resembling that of the most powerful telescopes in relation to the objects of astronomical research, — both conduce, the one hardly less than the other, by the phenomena they display, to excite in the mind of the philosophical inquirer feelings of admiration, of awe, and of humility.

Barbadoes, January 19th, 1846.

## Selections from Journals.

### ANATOMY.

#### CONCLUSIONS RELATIVE TO THE STRUCTURE AND FUNCTIONS OF THE PLACENTA. BY MR. JOHN GOODSIR.

1.—The placenta, as has long been admitted, consists of a fœtal and a maternal portion intermixed. But the maternal portion,

instead of consisting of a part of the vascular system of the mother only, includes the whole of the external cells of the villi.

2.—The external membrane of the placental villi is a portion of the wall of the vascular system of the mother, continuous with the rest of that wall, through the medium of the placental threads and lining membrane of the placental cavity.

3.—The system of the external cells of the placental villi belongs to the decidua, and is continuous with the parietal division through the medium of the cavities of the placental threads. This portion of the decidua has been named the central division of the placental decidua, and the threads decidual bars.

4.—The function of the external cells of placental villi is to separate from the blood of the mother the matter destined for the blood of the fœtus. They are, therefore, secreting cells, and are the remains of the secreting mucous membrane of the uterus.

5.—Immediately within the external cells of the placental villi, there is a membrane which I have named the internal membrane of the villi. This membrane belongs to the system of the fœtus, and is the external or bounding membrane of the villi of the chorion.

6.—Inclosed within the internal membrane of the placental villi, is a system of cells which belong to the system of the fœtus, and are the cells of the villi of the chorion. These are the internel cells of the placental villus.

7.—The function of the internal cells of the placental villi is to absorb through the internal membrane the matter secreted by the agency of the external cells of the villi.

8.—The external cells of the placental villi perform, during intra-uterine existence, a function for which is substituted in extra-uterine life, the digestive action of the gastro-intestinal mucous membrane.

9.—The internal cells of the placental villi perform, during intra-uterine existence, a function for which is substituted in extra-uterine life, the digestive action of the gastro-intestinal mucous membrane.

10.—The placenta, therefore, not only performs, as has been always admitted, the function of a lung, but also the function of an intestinal tube.—*Anatomical and Pathological Observations.*

## TOXICOLOGY.

### CASE OF POISONING BY ACETATE OF LEAD.

BY W. F. GORRINGE, ESQ. SURGEON.

*Gastrodynia and vomiting, following a poisonous dose of acetate of lead; suppression of menses; failure of hydrocyanic acid, and success of creasote.*

Mary B., aged 18, a servant, and her sister, aged 21, nearly twelve months ago, took an ounce of plumbi acetas by mistake*; soon after swallowing it, felt a burning pain in the mouth, throat, and stomach; they both vomited freely in about a quarter of an hour; in half an hour, had severe pinchings in the bowels; saw a medical man, and took some medicine: they were severely purged. From this time she had not been free from pain at the epigastrium; her sister also has been troubled with pain in the same way ever since; about five weeks ago she began to vomit everything she took, whether liquid or solid, and the vomiting has continued unabated ever since. Present symptoms: complains of pain in the left side, and at the epigastrium, and in the small of the back; the pain is much worse after eating, and she cannot retain anything on her stomach; the epigastrium is tender on pressure, and also the dorsal region of the spine; hot or cold drinks increase the pain; tepid drink agrees the best; tongue clean and rather red; appetite bad; bowels confined; pulse 120; has a choking sensation in the throat; pain and difficulty in passing urine; catamenia absent for fourteen months, (the amenorrhœa was therefore in all probability not dependent on the action of the poison), until a month ago, when they appeared scantily.

Hirud. iv. Epigastrio; R. Hydrarg. cum Cretâ, gr. iv.; Pulv. Antim. gr. i.; Extr. Hyoscyami, gr. iii. o. n.; R. Acid. Hydrocyan. ℳ iij; Aquæ, ʒi.; Potass. Citrat. ʒss.; Mucil. ʒj.; M. Fiat. Haust. t. d. s.

Under this treatment the pain in the left hypochondrium and sickness increased. On the 18th, Mr. G. prescribed,

Creasoti ℳij. t. d. vel p. r. n. sumend.

19th.—Has only taken one dose of creasote, and has not been sick since; the pain at the epigastrium also is gone. On the 21st, the sickness and epigastric pain having yielded to the remedy, the creasote was discontinued, and a draught containing dilute Nitric Acid and tincture of Calumba ordered. In the evening the pains in the epigastrium and side returned. The Hydrocyanic acid was again ordered, and blisters were applied to the side and epigastrium, but she continued to suffer more or less severely from pain and sickness until the 7th of June, when she again took the creasote: this relieved the symptoms almost immediately. It is not mentioned for how long a time the medicine was continued, but on the 18th the report states that she was quite recovered.—*Prov. Med. and Surgical Journal*, April 22, 1846.

* This is a vague account; the narrator probably means to state that each of the sisters took half an ounce of the poison, but whether this was really the case or not it is difficult to determine: details of this kind require great accuracy of expression.—Ed. Gaz.

## THERAPEUTICS.

### ON THE TREATMENT OF SYPHILIS BY MEANS OF GALVANISM.

BY DR. KRUSELL, OF PETERSBURGH.

In accordance with the wish of Dr. Krusell, this short abstract has been furnished from the reports of the cases by Dr. Shönberg, (Staatsarzte Ordinator), of the diseases treated with galvanism by Dr. Krusell in the Naval Hospital of Cronstadt, between June 1 and the 14th September, 1844.

This article is a translation by Dr. Fröbelius of St. Petersburg. The following in brackets is a supplement added by him. (Extract from the "Bullétin des Sciences de la classe Physico-Mathématique," read the 4th April, 1845.) The secretary read a letter addressed to him by M. Krusell, and which contained the history of the discovery of the "double traitement électrolytique," which the author applies to primary syphilitic ulcers, to ulcerating cancers, &c. He names the product of the current entering, "esiontide," and that of the current passing out, "exiontide." On this occasion the secretary announced that M. Krusell had obtained permission to establish a hospital at St. Petersburg, for the treatment of external diseases by means of Galvanism. (From the 4th Vol. No. 10-11, read the 2d May, 1845). M. Lenz produced, on the part of M. Krusell, the apparatus which he employs in his electrolytic cures, and which are, in fact, very judiciously applied to practical purposes. The method adopted by M. Krusell is as follows: he commences by conducting from the wound the galvanic current, and of making it again enter afterwards, for a certain time. The method called by him "double traitement électrolytique," has, according to the testimony furnished by the medical men of the large Naval Hospital of Cronstadt, afforded very striking results. In his operations he never places the metallic conductors in immediate contact with the sound parts of the body, but he always separates them by an interposed liquid. The other conductor, on the contrary, is applied immediately to the ulcer, all the time that it is hard, or else the communication is made afresh by the intervention of a liquid. The vessels which contain the liquids, into which the conductors are plunged, are applied most ingeniously to the body to prevent any passage of air, and their filling and emptying is effected with the greatest facility. The metal of the conductors, as well as the liquids, are chosen in such a manner as to form a galvanic element with the body, acting in the same direction as the elements of the constant battery of Daniel, which M. Krusell commonly employs.

The duration of the action is regulated by an ingenious voltameter, adapted on purpose, and which being nothing but a powerful element of zinc and platina, serves to measure the quantity of hydrogen disengaged.)

The following remarks are necessary before reading the abstract:—

1. All the cases treated were taken from the syphilitic department of the hospital, except the Nos. 12, 18, 21, 26, 36, 42, and 47, which were selected from different surgical wards.

2. All the patients received the full proportion of meat as soon as they were treated with galvanism, which they continued to receive the entire period of treatment, unless feverish attacks or any other conditions forbad it.

3. All buboes were opened before the use of the galvanism.

4. With the commencement of the galvanism every other treatment was suspended; as a bandage the first day, but at a later period, charpie wetted with pure water was used. By way of exception only, in some cases, pure lard or an emollient poultice was used to assist in the separation of the eschar formed by the effects of the galvanism. To keep the diseased parts clean, soap and water was made use of, and against any indolence at the base of the ulcer, decoction of oak bark.

For the removal of the slough and the secretion of the wound, potash dissolved in water was applied. Any decided general debility was treated with tonics (Roborantia); scrofula with antiscorbutics, and against the danger of a further extension of gangrenous ulcers, besides the galvanism, the well-known internal and external antiseptic means were ordered.

5. The inoculation of the poison continually performed on the same patients gave rise to the same results.

6. All the patients of low rank treated with galvanism, continued, after the cure, in the hospital, for further observation.

The abstract contains notices of forty-three patients, arranged in a tabular form, under the following heads:—

1. Name, rank, and date of admission into hospital.

2. What remedies had been used before the galvanism.

3. In what condition the disease was at the time of commencing the use of the galvanism, and the appearances arising during its adoption.

4. Date when the galvanism was first applied.

5. The time occupied in the cure.

6. The present state of the patient on the the 13th of September, 1844.

7. Remarks.

The patients were soldiers, sailors, and

officers. In many cases no treatment had been adopted before admission; in others, preparations of mercury administered generally and applied locally.

All kinds of sores appear to have come under the treatment; those on the glans as well as upon the prepuce; superficial as well as deep; with hard edges and bases and without; buboes; condylomata.

The treatment of the first case commenced on the 4th July, the last the 11th September, 1844.

Out of the 43 patients, 21 were free from all appearance of disease on the 13th September, 1844. All the others, with the exception of three or four, were in the best condition: the sores nearly healed.

In a few of the cases other means were added, but in far the greater number nothing but galvanism.—*Journal für Chir. u. Augenheilkunde Walther u. Ammon*, Bd. v. s. 92.

### COFFEE AS A REMEDY FOR NEURALGIA.

It is stated that a female under the care of M. Piorry had after parturition been attacked with a neuralgic affection of the frontal branch of the fifth pair of nerves, which after resisting a number of the ordinary remedies, yielded completely to a continued use for many days of a very concentrated decoction of coffee.

Another case also is mentioned, in which the success of this remedy was generally marked. A woman affected with the same form of neuralgia, which had been unavailingly treated with the valerianate of zinc and quinine, became cured by combining the use of strong coffee with the above remedies. The therapeutic effects of this drug were well marked in her: a draught of a very strong decoction of it at the commencement of a paroxysm of pain being quite sufficient to prevent its continuance.—*Gazette des Hopitaux*, 9 Mai, 1846.

## ETIOLOGY.

### EFFECT OF COLD IN INDUCING DROPSY.

A case of what may be termed inflammatory dropsy lately occurred in the wards of M. Champouillon, and affords a striking illustration of the effects of cold in producing this form of disease. A young and previously healthy man, whilst in a state of perspiration, washed his face, arms, and legs, in cold water, and also drank a quantity of it. On the following day he was admitted into the hospital, in a state of universal œdema, and his urine loaded with albumen. He was shortly afterwards attacked by epileptic paroxysms, which followed each other in rapid succession; during one of these the man died a few days after his admission. On examining the body there was found some serous infiltration into the sub-arachnoid tissue; and the kidneys were loaded with blood.—[This is commonly observed when death occurs in so early a stage of dropsy with albuminous urine.] —*Gazette des Hopitaux*, 9 Mai, 1846.

## PATHOLOGY.

### TUBERCULOUS ABSCESS OF THE LUNGS OPENING EXTERNALLY.

M. Forget, of Strasboug, read, at the Academy of Medicine in Paris, the details of a patient affected with pulmonary phthisis, in whom there was developed on one side of the chest a fluctuating tumor, with emphysematous crepitation. This tumor opened spontaneously, and gave exit to both pus and air; a fistula, which closed and again opened at different times, persisted to the death of the patient, which was accelerated by the appearance of a pleuritic effusion occupying the entire thoracic cavity. At the autopsy, a tuberculous caries of the seventh and eighth ribs, corresponding to the abscess, and a fistulous opening establishing a communication between the exterior of the chest, and the interior of the lung appeared. Tubercles existed in the lungs, and liquid and false membranes in the pleura.

M. Velpeau observed to M. Forget, who believed this case unique, that he possessed himself six analogous to it, two of which were even still more curious, for the fistula opened on the lateral parietes of the neck, below the ear.

M. Blandin related likewise three facts similar to that of M. Forget. He spoke of tuberculous abscesses communicating with the lung, which he had opened in the practice of Messrs. L'Herminier, Honoré, Rostan.—*Gaz. Med. Chir.* No. 1, 1846, p. 8.

## Correspondence.

### URINARY DEPOSITS.

Sir,—Will Dr. Ray Chas. Golding have the kindness to state the evidence on which he asserts that cystic oxide is a common deposit in the urine of the canine and feline races? Does he assert this to be the case in consequence of Lassaigne's having once found 97 per cent. in a calculus reputed to have been found in the bladder of a dog?

Under the head *bile*, why is the test for its essential constituent, "*choleate of soda*," omitted? (See Day's Edition of Simon's Animal Chemistry, vol. ii. p. 193.) On what evidence are the statements regarding urine depositing *uric oxide* given?

Finally, if Dr. Golding finds blood-discs, I cannot help thinking he will always find the urine more or less albuminous.

L. M.

*** This letter reached us too late for insertion last week. The delay in its insertion has, however, enabled us to procure from Dr. R. C. Golding the subjoined answers to the queries of our correspondent.

*Dr. R. C. Golding's Reply.*

1. The evidence I possess of cystic urine being prevalent in the dog and cat is derived from lectures attended by me in Edinburgh. When compiling the table, I consulted several authorities; among others my notes of Dr. Henderson's lectures. I have not examined the urine of any of the lower animals affected with the cystic oxide diathesis; though I have done so in the human subject. I cannot at this moment recollect where else I have seen it mentioned, but did not take my inference from Lassaigne's case of cystic oxide calculus in the dog's bladder, referred to by your correspondent. It would be worthy of investigation, and if in possession of means, I will follow up the subject.

2. The test referred to by L. M., and mentioned in Day's Simon's Chemistry, vol. ii. p. 193, has the following objections:—

*α*. Although very definite as to the presence of choleate of soda, now deemed the essential principle of the biliary secretion, it will not indicate the presence of the colouring matter of the bile, when that constituent is alone present in the urine, and that in minute quantity, as is frequently the case. The urine is of a high colour, not unlike ordinary lithic urine when first passed, but differs from it, in not depositing a sediment on cooling.

*β*. The nitric and muriatic acids, with clean linen, will always suffice, and are the most definite, as it is the colouring matter of the bile that is affected by the acids. The colour is so intense as readily to be detected, when every other constituent of the bile cannot be so.

The sulphuric acid and sugar test acts on the choleate of soda (bilin) and not on the colouring matter.

*γ*. A certain quantity of the biliary principle must be present to enable that test to be determinate; so that the urine often requires evaporation before the reagents are effectual. This I need not say is an objection in the clinical examination of any secretion: this with the modicum of heat required (only 144° F.) renders the experiment complicated, and to a person not versed in the subject, unsatisfactory in its results.

*δ*. The test is too complicated and delicate to be of much utility in competition with the more simple but not less determinate tests of the nitric and muriatic acids.

*ε*. The colouring matter of the bile is that first and last met with in the urine: it exists often where no other constituent of the bile exists, or does so in an inappreciable quantity. In the jaundice of absorption this position is invariable; in the jaundice of suppression the patient soon becomes comatose, and dissolution results. So that for real clinical purposes the tests described in the table are of essential service, seeing that absorption of the chief principle of bile is so speedily followed by death, from its effect on the cerebrum.

Of course other symptoms would be present in the latter instance quite determinate of the state of matters; in the former the only indication of insidious hepatic disease is the presence of the biliary colouring matter in the urine, with a slight tinge of the adnata and skin.

3. The statements respecting uric acid I have not been able to verify, but all writers on the subject are agreed that the analogy between uric oxide and lithic acid in chemical composition is very great, the former containing, I believe, 1 atom less of oxygen than the latter.

No other *deposit* produces a yellow hue with nitric acid: the potash test would be corroborative of the effect produced by that acid.

My authority here is that usually found in books on this subject.

4. If much blood be present indubitably the urine will be albuminous; *i. e.* will yield a distinct precipitate with heat and nitric acid; but surely when a drop or two of blood is mixed with a large quantity of urine (as is often the case) the presence of albumen would be but feebly indicated; I question whether it would be so at all. At all events no one would be satisfied with so faulty an indication of diseased kidney. The smallest quantity of blood will tinge a large quantity of urine, rendering that fluid smoky; and, as determining the presence of congestion about the urinary passages, it would be interesting to know whether a minute trace of blood was its cause: the microscope would clear up the difficulty.

This often happens in prostatic disease. The term albuminous in the table, under the head "Blood," means decidedly albuminous, or in such a degree as to be easily rendered evident. I cannot, however, help thinking that blood-discs may often be discovered by the microscope, without the urine being at all albuminous; at least, I have often in vain tried to detect albumen under such circumstances.—I remain, sir,

Your obedient servant,

R. C. Golding.

King William Street, West Strand,
June 2, 1846.

# Medical Intelligence.

## EFFECTS OF THE SIROCCO.

In an interesting account of the climate of Algeria and the diseases peculiar to it, M. C. Broussais describes some of the effects of the sirocco, or hot desert-wind. This wind occurs in Algeria, in the autumnal months particularly; and its prevalence is characterised by remarkable physical phenomena, as well as by strange physiological effects, such as sudden deaths, suicides, &c. When it blows strong, the sky becomes grey, sometimes reddish; the horizon is darkened, and the air becomes charged with a light dust, which is carried off towards the sea, over which it forms a kind of cloud. If a window is opened during the continuance of the sirocco, the air which enters is intensely hot, just as though it came directly out of a furnace; it causes great irritation of the skin and eyes. If one leaves the house and goes into the air, the sensation excited is like that on entering a dry stove. In vain are repeated attempts at respiration made; the air which enters the lungs is stifling; and after repeated efforts to breathe, a sense of fulness in the head, with giddiness, confusion of intellect, and complete inability to make any effort, comes on, and the person eventually falls quite exhausted and overcome. So dry and hot is this wind that the leaves of trees are shrivelled and hardened by it, and even paper cracks and curls up.—*Gazette des Hopitaux*, 30 Avril, 1846.

*** Having experienced the effects of this wind, known in southern Italy and Sicily as the sirocco, we can bear testimony to the general accuracy of the description given by M. C. Broussais. When it reaches the soil of Italy it retains its high temperature, but becomes charged with vapour, which it takes up in traversing the Mediterranean. It appears under the form of an intensely hot mist; and while it prevails it is scarcely possible to make the least exertion without the production of profuse diaphoresis. The act of respiration is accompanied by a sense of suffocation; and there is complete exhaustion. The only source of relief is to close all the doors and windows, and to remain shut up during its prevalence. Englishmen, however, take a pride in setting all atmospheric influences at defiance; and there is a saying at Rome that none but dogs and Englishmen are to be seen in the streets during the prevalence of the sirocco!

## PATRONAGE OF QUACKERY.

It is painful to witness at the present day the patronage and confidence—and that by parties who from their position ought to be the leaders in the enlightenment of society—bestowed upon the professors of homœopathy, hydropathy, and animal magnetism; whilst men profoundly acquainted with the structure and diseases of the human frame are left to struggle on unnoticed. In fact, it appears that with those who send for the licensed medical man,—a knowledge of his profession and a sound scientific education are frequently the last things that are required as a recommendation of his services. —*Athenæum.*

## IS A DENTIST A MEDICAL PRACTITIONER?

Independently of the "*Affaire Raspail*," another subject has lately agitated the Parisian Medical Faculty, namely, the "*Affaire des Dentistes.*" This case, very important to all practising as dentists in Paris, came before the Court of Cassation on the 15th of May, in the shape of an appeal on the part of a M. Rogers, who had been convicted by the Court below of the illegal practice of *medicine* in acting as a dentist. The conviction had taken place under an old law of the revolutionary period (Art. 45. 19 Ventose, An. xi.) This law admitted of only two grades of medical practitioners, namely, Doctor of Medicine and *Officier de Santé**. On the one hand, it was contended that the art of the dentist was of sufficient importance to justify the exaction of some test of competency from those who practise it. The highest authorities in medicine and surgery agree in this view, and a conviction had been obtained against M. Rogers on these grounds by MM. Reynard, Audibran, and Rossi, regular (licensed) physician-dentists. On the other hand, it was argued that it was giving a constrained interpretation to the words of the law to include in the practice of medicine, as defined by it, the art of extracting and cleaning teeth. Medical practice can only apply to the art of healing. A precedent was then quoted to show that this view of the question had been adopted by the Court of Cassation on a former occasion. After hearing the report of the Advocate-General, the Court decided that although the practice of the dentist required legislative supervision, there was no law which compelled an individual, acting purely as such, to take out a medical diploma. They therefore quashed the decision of the Royal Court, and discharged M. Rogers from the penalty which had been imposed upon him.

*** The ignorance of many who practise as dentists in London is beyond all belief; and the damage which they do to the public, both in a dental and pecuniary point of

* A kind of recognised lay practitioner, of which we know nothing in England.

view, is scarcely conceivable. The practice of dental surgery requires to be placed on a proper basis, and no man should be permitted to exercise the art, who has not given some proof of his competency by education and examination. The columns of the journals are daily filled with alluring advertisements of succedanea, terro-metallic preparations, &c. &c., a striking proof of the ease with which the public are deceived by the professors of dental quackery, and the rich profits which must be derived from this *mare magnum* of unlicensed practice. We have heard on good authority that it is the custom of some of these pretenders to advertise themselves under five or six different names; to have apartments, with conspicuous brass-plates on the doors, in as many different parts of the town, marking out their consultation-hours in a way to suit their ubiquitous proceedings. A hard name, of Sclavonic origin, is also found to be particularly attractive; and if a succession of failures should occur under one name, it is easily laid aside for another!

### NEW METHOD OF CURING DEMONOMANIA.

A WEALTHY countryman, affected with hypochondria, and who had been persuaded by his friends that he was bewitched, consulted a M. M—— respecting his condition, declaring that his body was infested with seven demons. The physician perceiving at once the mental condition of his patient, undertook, after a little conversation, to cure him of his malady in seven days, and promised to expel one demon from his body every morning for a fee of twenty francs. But as the last would be the most difficult to expel, he stipulated that for this, the fee should be forty francs. On the first morning the hypochondriac received a smart electric shock, which caused him to cry out; but the physician merely remarked coolly, that that was only one demon gone. The same experiment was repeated, with the like results, until the seventh morning, when so severe a shock was given that the patient fell senseless. When he recovered, he was easily persuaded that his persecuting demons had left him. He paid his fees (which were given away in charity) and returned cured to his native village. The cure effected in this case shews that it is sometimes necessary to reason with a fool according to his folly.—*Gaz. des Hôpitaux.*

*** This must surely be the secret of the method pursued, although, we fear, with less disinterested motives, by the Rev. Dr. Willis Moseley, a clerical medical practitioner, who, according to his own published statement, "has had not less than 14,000 applications, and knows not 25 uncured who have followed his advice." The original and *only* means of cure of this reverend practitioner, are, however, "sent in a pure and effective state (packed in Leyden jars?) to all parts," and are calculated to relieve all sorts of deep-rooted nervous complaints, &c.

### AN UNPROFESSIONAL CIRCULAR.

A SURGEON residing in London has recently caused circulars to be distributed among the practitioners of this metropolis, wherein a plan is proposed with regard to which it is sufficient to express our astonishment that any person should have the effrontery to imagine that such a system could ever be adopted by a class of honourable men.

The speculator takes it for granted "that gentlemen in general practice cannot give their time and attention to the treatment of distortions, local weakness, stiffness, and contractions, in a manner advantageous to themselves, and also to their patients; and consequently these cases are left, for the most part, to quacks and empirics," &c. He therefore proposes, with the assistance of the profession and others, to form an institution on a joint-stock principle, into which such unfortunates shall be sent by the practitioners who feel unable or unwilling to cure them at home, and where they "will have the benefit of being treated by medical men well versed in, and exclusively devoted to, the practice of the most approved system of orthopædic surgery, while the ordinary medical attendants of the parties may be delivered from the onus of cases which they are unable to cope with, and yet be made partakers of the monetary advantages that may accrue to the institution from such treatment." In short, this gentleman very considerately proposes to obtain sufficient money from the patients thus caught, to remunerate himself, to support the institution, to afford "large and increasing dividends" to the proprietors, and lastly to repay the practitioner for the pecuniary loss which he would sustain by transferring his patients to others.

We are always unwilling to enter into strong expressions with regard to the conduct of others; and, therefore, as we feel unable to discuss the principles of the above orthopædic speculation with any degree of favour towards the speculator, we shall leave the question to be decided by the good sense of our readers. At the same time we cannot avoid suggesting, that the aurists and oculists have just as much reason to assume that they monopolize all medical and surgical knowledge relative to the diseases of the ear and eye, and to invite their brethren to contribute to the support of joint-stock Ear and Eye Institutions, for the benefit of those who have dubbed themselves professors in these branches of surgery.

### TYPHUS FEVER AT CAMBERWELL.

A PARAGRAPH has gone the round of the daily journals to the effect that there has been an alarming spread of typhus fever at Camberwell, and it has been represented that in one street three or four persons daily have fallen victims to this fever within the last three weeks. The best answer which we can give to this alarming statement is a reference to the last published table of the Registrar-General. From this we learn that the deaths from typhus during the week ending May 23d, were for the whole metropolis *twenty*, of which nine were under fifteen years of age, nine between fifteen and sixty, and two above sixty. The average weekly deaths at this season are *thirty-two!* Again, in the south districts, in which Camberwell is situated, the weekly deaths were only 202, while according to the weekly vernal average they should be 227.

## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

FRIDAY, *May* 29.—E. W. Pritchard.—S. Probyn.—H. F. Smith.—G. A. Jeffery.—D. W. Stephens.—J. W. Considine.—F. J. Sandford.—E. Sandford.—H. Loney.—C. F. Williams.—A. Clark.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *May* 28.—Edward Palmer Turner, Birmingham.—Coleman Burnham, Paterington.—Owen Kiernan, Devonshire.—Wm. Abraham Salmon, Wells, Somerset.—Octavian Royle, Planfield, Norfolk.—John Climenson Day, London.—John James Rygate, Grays, Essex.—Frederick Howard, Dorking.—Frederick Giles Broxholm, Sunbury, Middlesex.—Edward Henry Owen, London.—Robert Lumb, Whitehaven.—James John Roughton, Kettering.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, May* 23.

| Births. | | Deaths. | | *Aver. of* 5 *yrs.* | |
|---|---|---|---|---|---|
| Males.... | 686 | Males.... | 405 | Males.... | 493 |
| Females . | 611 | Females . | 455 | Females . | 475 |
| | 1297 | | 860 | | 968 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129. *Population, in* 1841, 1,915,104.)

| | | |
|---|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. | (Pop. 301,326) | 122 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... | (Pop. 366,303) | 186 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ..... | (Pop. 374,759) | 144 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ..... | Pop. 393,247) | 206 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ..... | (Pop. 479,469) | 202 |
| Total ..... | | 860 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Springs; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 860 | 892 | 968 |
| SPECIFIED CAUSES ..... | 858 | 886 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 120 | 162 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 91 | 98 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 162 | 155 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 252 | 271 | 294 |
| 5. Heart and Blood-vessels ..... | 40 | 26 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 78 | 65 | 72 |
| 7. Diseases of the Kidneys, &c... | 7 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 10 | 9 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 12 | 6 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 5 | 1 | 2 |
| 11. Old Age..... | 39 | 60 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 42 | 25 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 4 | Convulsions .... | 41 |
| Measles ..... | 8 | | |
| Scarlatina ..... | 11 | Bronchitis ..... | 43 |
| Hooping-cough.. | 39 | Pneumonia..... | 48 |
| Typhus ..... | 20 | Phthisis ..... | 133 |
| | | Dis. of Lungs, &c. | 10 |
| Dropsy..... | 11 | | |
| Sudden deaths .. | 21 | Teething..... | 8 |
| | | Dis. Stomach, &c. | 3 |
| Hydrocephalus .. | 32 | Dis. of Liver, &c. | 18 |
| Apoplexy..... | 33 | Childbirth ..... | 6 |
| Paralysis..... | 16 | Dis. of Uterus, &c. | 3 |

REMARKS.—The total number of deaths was 32 below the vernal and 108 below the annual average. The deaths from hooping-cough have fallen to the vernal average. With the exception of the North and East districts, the mortality was below the vernal average.

## METEOROLOGICAL SUMMARY.

Mean Height of Barometer ..... 29·57
„ „ Thermometer[a] ..... 54·2
Self-registering do.[b] ..... max. 99·5 min. 28·
„ in the Thames water. — 60·5 — 56·

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·85: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was above that of the mean temperature of the month (54°). The extreme hebdomadal range in the self-registering thermometer was 71·5°.

## NOTICES TO CORRESPONDENTS.

Mr. Higginbottom's cases next week.

The lectures of Mr. Cæsar Hawkins and Mr. Tomes will appear in the following number.

Dr. Warren.—The pamphlet on Ligature of the Carotid Arteries has reached us. The cases of strangulated hernia are in type, and will have early insertion.

S. W. J. M.—We quite agree with our correspondent, but do not consider it necessary to publish his letter on the subject.

## Lectures.

SUBSTANCE OF A

# CLINICAL LECTURE,

*Given at St. George's Hospital,*

By Cæsar Hawkins, Esq.
Surgeon to the Hospital.

May 19, 1846.

1. *Fibrous tumor of the upper jaw—Epulis.*
2. *Fibrous tumor of the palate.*
3. *Case of warts, nævi, and serous cysts.*

I have placed before you, gentlemen, to-day, the preparations from two cases which you saw operated on on Thursday last: one of them is a fibrous tumor of the palate, removed by Mr. Keate; the other is a fibrous tumor of the upper jaw, which I removed myself: the latter is called an epulis, as being like the gum, and partly growing from it, and I propose to make this disease the subject of our first consideration; looking upon it, however, as essentially the same as Mr. Keate's tumor of the palate, and not as a disease, strictly speaking, of the gum alone, as you might understand from its name. I will read you the history of the first case:—

I. Mary Tyrrell, ætat. 30, was admitted, under my care, on the 8th of this month, with a tumor, about the size of a large walnut, or rather larger, of an irregular form, growing from the alveolar process of the right side of the upper jaw, and attached, to all appearance, by a broad base, to that process, in a space intervening from just behind the canine tooth, as far back as the last molar. The tumor is vascular, and at times painful; a portion of it projects internally from the attachment of the alveolar process, and lies (as ascertained by the probe) in contact with the mucous membrane of the hard palate, but is not attached to it, whilst a smaller portion, also unattached, turns upwards over the middle of the external surface of the maxillary bone. The surface of the tumor below this portion is vascular and ulcerated, and projects downwards, and lodges, when the mouth is closed, upon the dorsum and side of the tongue. Although the jaws can be closed, the tumor very much impedes mastication and deglutition; it never bleeds, and is painful only at times. Her health seems to be good.

She has been subject to toothache on that side for the last two years, and at the beginning the pain was very severe; when the tooth had partly loosened from its cavity in the socket, a small lump appeared, about the size of a pin's head, on the outer side of the gum, in the situation of the second bicuspid or first molar tooth; she picked it off, but in one or two months it appeared again in the same place, and has been since growing to its present size; she had one bicuspid and a molar tooth removed by a surgeon about three months ago, which were sound and not loose, according to her account, and a decayed stump was also extracted a day or two after her admission. The tumor has much increased in size lately.

It is said by some surgeons that epulis is more common in the lower jaw, but there are before us several specimens of the disease from either jaw, and I have myself seen and operated, I think, on nearly an equal number in the upper and lower jaws; so that I do not know that it is more frequent in one than in the other.

It is said, also, that this tumor is generally seen in children or young persons; I have myself seen it several times in children, but the majority have been adults like our present patient, and like several of those from whom the tumors on the table were removed—30, 40, or more years of age; it is probable, therefore, that there is nearly an equal number of young persons and of adults subject to its formation.

If you examine the tumor on the table, you will perceive that it is solid and firm, and distinctly fibrous, both to the naked eye and under the microscope, the fibres in the centre being evidently nearly perpendicular to the surface of the socket from which it derived its origin; this fibrous structure is most dense in the centre, and becomes softer and mixed with more granular structure towards the circumference, where it is covered by the mucous membrane of the gum, which is in some parts warty and very irregular. When you remove such a tumor, you may find the surface of the bone from which it grows scabrous and irregular, or with spiculæ projecting into the base of the tumor, the bone itself being hard and dense, so that you find it useless to endeavour, with a sharp chisel (as I tried in vain in my patient), to shave off the outer surface of the bone. In the other tumor removed by Mr. Keate some spiculæ of bone projected into it from the bony palate; its fibrous tissue is, however, rather less dense than in the one from the alveolar process, and the mucous membrane of the palate seems quite free from attachment to it, instead of being a part of the tumor, as in the epulis.

Sometimes, as you would expect in a tumor essentially connected with the bone or periosteum, you have spiculæ of bone in the centre of the tumor, separate from the surface of the bone. Here, for example, is one attached only by a pedicle to the gum, in the centre of which is an osseous nucleus. The natural course of change of all fibrous tissues in their transformation, is to have a

deposit of bone, as you may see in fibrous tumors of the uterus, or other parts; *a fortiori* you might expect that fibrous growths of the periosteum or bone would have a tendency to some ossific deposit. I regard what is called epulis, then, as a fibrous tumor of the bone, generally of the surface of the bone, which presents much of the appearance of the gum, because it grows into the gum, and all tumors are inclined to resemble in their structure the tissues in which they form; there is a little difference, therefore, between these two fibrous tumors of the gum and palate, and between them and fibrous tumors of the cellular tissue or uterus, or glands, or skin. Look, again, at this preparation of fibrous tumor of the upper jaw, which was removed by Sir Benjamin Brodie, which has affected all the thickness of the bone; the outer part was to all appearance a tumor like that of our patient—an epulis; the centre is almost solid bone; and the interior, where it projects into the cavity of the antrum, resembles a mucous polypus, because the mucous membrane is changed on the inside, as the gum is altered on the outside, during the growth of the tumor; the disease having commenced, according to the evidence of pain in the centre of the bone, some months before it projected externally. And another confirmation of this opinion of the origin of epulis from the periosteum and bone is given by what you saw in this very case of Tyrrell's, namely, that the tumor occupies the whole cavity of the alveolus, where there is no gum, and is quite fibrous in the centre; the circumference alone having the appearance of gum, where it approximates to that texture.

You may have remembered, what our notes specify, that the tumor was vascular; it was of a red colour like the gum, which is well seen in this drawing, which I had taken from the patient from whom I removed this round tumor with central bone; and you can press out the blood, and see it return again slowly as in the natural structure of the gum. Yet, although well supplied with blood, it often grows very slowly. I had this cast taken from a woman, 30 years of age, who was under Mr. Keate's care in the hospital, with a tumor of the lower jaw, which began as long as eighteen years previously, and it was removed five years afterwards, without having grown larger than a pea: it was removed again eight years after this, by a second operation, when as large as half a walnut; and in five years more had attained no greater a size than you now see; in the third operation a portion of bone was removed by Mr. Keate. In our patient the tumor became larger than in this case, in less than two years, and was rather unusually rapid, but still was little ulcerated or altered. As it proceeds, the tumor grows more rapidly, and is softer and more vascular, and ulcerates, and has irregularities from the pressure of the teeth; and the ulcers are liable occasionally to become sore and painful, and to bleed slightly, and form a fungous growth, something like that of a malignant tumor, and they are sometimes described as being carcinomatous.

I do not believe, however, that there is any reason to think that fibrous tumors, either of this or any tissue, have a carcinomatous nature; or that, even when they ulcerate extensively, and may be fatul from irritation, they have the power of contaminating the adjacent tissues, or of affecting the general system by absorption. In this drawing of a very large fibrous tumor of the uterus, or polypus as it is termed, you may see great vessels and cells in its interior, and the irritation of it destroyed the patient, but no part showed evidence of malignant growth.

This fibrous tumor has cells within it of some size, and the outer portion of an epulis, when growing quickly, may have a few cells developed, although in our patient there is only a little greater softness of the outer parts of the tumor. When not condensed, a fibrous tumor may have very large cysts, as in a case where I tapped a woman with what appeared like ovarian tumor, and removed fifteen pints of fluid, which proved, on examination, to be secreted in a cyst of a large fibrous tumor of the uterus, which had several other cysts of smaller size within it. In fibrous tumors of the interior of a bone, also, very great cysts are sometimes developed; but in the epulis even small ones are not common.

Our patient informs us that she suffered much from toothache before the tumor shewed itself; and it seems probable that the irritation of unsound teeth may sometimes occasion the growth, as any source of irritation may do in other textures; but it does not appear that this is often the case, for it grows sometimes from the outside of the alveolus, away from the teeth, and pushes them aside, while they continue perfectly sound; and therefore the pain attributed to the teeth, and often leading unnecessarily to their removal with the view of curing the toothache, is really in many instances owing to the growth of the tumor, and not the tumor to the irritation of the teeth.

Like almost all solid adventitious structures, an epulis is not much influenced by any remedies you can employ, and as it occasions considerable inconvenience and deformity, as you have witnessed in Tyrrell, and as there is danger of its affecting more and more of the bone to which it is attached, and may in time become unhealthy and ulcerated, its removal should be recom-

mended at an early period. The steps necessary in the operation depend on the size and situation of the tumor, and its connexion with the parts around; but do not forget always to direct your attention to the bone itself as the source of the disease.

1. Suppose that the tumor affects one lamina only of the alveolus, either the outer or inner, with the socket perfect, and the teeth sound, and the base a narrow one; it may be sufficient to cut off the tumor down to the gum, and with a sharp chisel to shave off any little spiculæ of bone which are prominent, and watch very carefully for any sign of unhealthiness in the granulations, and if there be any a day or two afterwards, to touch the surface of the bone from which they spring with nitric acid, or some other caustic, of which I will presently speak.

2. If the inner surface of one lamina is affected as well as the outer, so that the tumor pushes the teeth aside, or passes between them, so that the surface of the bone cannot be got at, the tooth or teeth must first be removed in order that the same proceeding may be successfully carried into effect. For example, this drawing and the corresponding preparation are from a patient of mine, a woman 40 years of age, in whom a tumor appeared between the left upper canine and bicuspid teeth, attached by a narrow pedicle just within the socket, ulcerated on the surface, and the gum a little diseased on each side of the root; it had begun two years and a half before, and nine months afterwards, when half its present size, it had been cut off, but grew again. I extracted the two teeth, which were separated, and excised the tumor and as much gum as was altered in appearance, and shaved off some of the outer plate with a chisel; once or twice afterwards the surface was touched with nitric acid, and I believe the disease was cured.

3. If both laminæ of the alveolar process are implicated, so that the tumor rises from the bottom of the socket, caustic will not easily reach it so as to effect a permanent cure, though it may do so if freely applied; as, however, tedious exfoliation of perhaps more than is intended will occasionally follow the free use of caustic, a quicker and more certain cure is produced when there is a narrow but deep attachment in the socket, by removing a V shaped piece of the socket by means of a small key-hole saw placed on each side of the diseased piece of bone, the two incisions meeting at an angle as deep as appears advisable, and a pair of forceps will break off the portion when almost insulated. The remaining bone, when thus sawn, is too well supplied with blood to exfoliate, and it readily granulates so as to fill up in great measure the place of the bone which is lost.

4. If there is a still deeper disease of the bone between its lamellæ, so that several of the teeth are loosened or displaced, and a swelling of the bone itself, or of one or both its coverings, indicates the formation of the tumor within the cancelli, it becomes necessary to remove a considerable piece, as in some of the preparations on the table, in order that no disease may be left behind. In the lower jaw, the whole thickness of the bone sometimes requires to be removed by two perpendicular cuts of the saw, which may be made to half divide the bone, and then strong bone-cutters will break through the remainder, more or less being first cut by the saw, according to the age of the patient and the hardness of the bone; and it is quite surprising how little deformity is created by the removal of a portion of the whole substance of the lower jaw. In order that the saw may be conveniently applied, appropriate incisions must be made in the soft parts; if the disease is situated in the chin, it may happen that the thickness of the bone is not too great, if the lower lip is lax and extensile, for the bone to be sawn and cut, and then dissected out, without any incision at all in the lip: and the same may be done in the centre of the upper jaw; but in most cases a semilunar incision is to be made below the chin, and the lip dissected up, for the saw to be applied through the opening, by which means the subsequent cicatrix is concealed by the dress to a certain extent. If the disease is at the side of the lower jaw, a curved incision is to be made along the basis, and the flap raised for the admission of the saw and cutting forceps, without interfering with the circle of the mouth, and the scar is much hidden by the cravat or the cap-strings. In every case the teeth should previously be extracted, as the saw will be impeded by any fragment of the dental substance.

5. In fact, however, the simple fibrous tumor, when situated in the lower jaw, need very seldom be removed with the bone down to the base of the jaw, especially in adults, as the new growth extends deeply in the cancelli less frequently in them than in children. A girl, 15 years of age, was admitted under my care into the hospital, with a spongy and ulcerated tumor of the right side of the lower jaw, extending from the canine to the last molar teeth, about three quarters of an inch broad, with indentations of the upper teeth upon it, looking as if all the molar teeth were buried in the tumor, but which, by her account, have never appeared. The swelling could be felt on each side of the jaw, as if reaching very near the basis, and it began about seven months before, having given her no pain. I removed it in the way that I have mentioned down to the basis, as it it did not

appear, on consultation, safe to remove less, and the semilunar incision of the soft parts healed by the first intention, the loss of bone being scarcely perceptible. Yet if you examine the preparation, you will perceive that the fibrous growth did not extend much below the bottom of the alveolus, and I might, in fact, have left the outline of the base of the jaw untouched. Generally the depth of the alveoli, or very little more, is all that is actually diseased, so that the removal of half an inch or three quarters of an inch in depth from the top of the socket is enough: but, at the same time, so little inconvenience is experienced by the loss of the whole thickness that you should not hesitate to do so rather than incur any risk of a portion of disease being left behind.

The mode of operating in such cases as these is this: a perpendicular cut is to be made in the jaw on each side of the diseased growth to the full depth of the part which you intend to remove; then you make a horizontal groove in the bone by means of Hey's saw in a line at right angles with the former cuts, and then you can cut off the insulated portion of bone by cutting forceps without the risk of the bone breaking horizontally beyond the proper distance, the depth to which your horizontal cut extends being greater in proportion to the hardness of the bone. The cutting forceps often exhibited in the shops consist, like this, of two equal semicircles, with straight handles, like pincers, when, of course, it is impossible to get the branch within to the right place opposite the outer one; nor does the turning of the handles get them sufficiently out of the way of the teeth of the upper jaw; you can effect this object, however, by the inner branch being twice as long as the outer, by which means its inner extremity curves round the jaw to the proper depth within the mouth. Sometimes a cutting forceps, the branches moving like those of a pair of scissors, but somewhat curved, will answer your purpose, the bone, in either case, breaking up if the groove is made to admit one end of the forceps. A more effective instrument is this which I shew you, recently made by Savigny, where two sharp cutting blades are placed opposite one another, one within and the other without the portion of bone to be removed, and then a handle turns a screw, which quickly forces the outer blade onwards in the groove made horizontally in the bone, and cuts it off with much power, and without any straining or irregular action of the hands, as in the use of the common cutting forceps; it is a very useful instrument in most cases of this kind, and removes the bone easily.

6. For the epulis of the upper jaw similar proceedings may be adopted, according to the size of the part to be removed, and incisions must be made according to the situation of the tumor; in the centre the lip can be raised without any external incision; at the side the cheek may be opened horizontally, or a flap insulated and turned upwards to expose the necessary extent of the bone. It is very seldom necessary, however, any more than in the lower jaw, to excise more than the depth of the alveolus, or a little more, by a V cut, or by the two perpendicular cuts of the saw, and the separation of the diseased part horizontally by the screw-cutting forceps, which I have shewn you. Here is a preparation of the upper jaw, which was removed; yet even here, although the tumor half fills the antrum, you can perceive that the orbitar plate might probably have been safely left.

Now let us apply these remarks to our patient, and see the reason of what I did in her case. It was obvious that the whole breadth and depth of the alveolus was implicated in the base of the tumor, since it overlapped both the palate and the outside of the jaw; but as there was no bulging of the bone above, it was not likely that more than the depth of the alveolus was affected. So much, then, must have been excised, to secure the patient against a return of the disease, but to make the necessary perpendicular and horizontal sections of the bone, an incision must have been made in the cheek, as the disease was too far within the mouth to be otherwise accessible. But then it was possible, by cutting off as much of the basis as could be reached, and subsequently applying caustic, that the origin of the tumor from the surface of the whole depth of the socket might be destroyed; and if only the surface of the bone was affected, that the disease might never return. As, then, this plan was not unlikely, though not certain, to effect a permanent cure, and as when the disease, when it returns after being not perfectly removed, is often very slow in its progress, as I have already shewn you, and as the nature of this fibrous growth is innocent, and not likely to be excited into rapid progress, as a carcinomatous growth is sure to be, by being meddled with without complete removal, I gave the patient her choice of what she would have done; and she decided, as I should myself have chosen, I think, to run the chance of the disease returning, and then having the more sure method of operation practised.

In the operation, then, I insinuated the flat surface of the knife between the palatine projection of the tumor and the palate, and afterwards between the outer overhanging portion of the surface of the jaw, down to the root of the tumor, which occupied the whole breadth of the alveolus from one

end of the tumor to the other, completely filling the cavity. The base being thus cut off to the level of the socket, I next removed a stump of another tooth, which was now exposed in the root of the tumor, and endeavoured with a chisel to shave off the surface of the alveolus, but, as is generally the case, the bone was too hard for this object, and I therefore left it for the application of caustic the next day; and as a vessel of some size came out of the bone at the root of the tumor, and bled a good deal, I placed on it a piece of blue lint, and covered this with a pad of lint, which was kept pressed firmly by the teeth of the lower jaw.

The next day I conveyed some strong nitric acid, by means of a pointed piece of wood with a little linen tied on it, to the base of the tumor within the socket, till it bled too much for more to be applied on that day.

I used the nitric acid, but I do not know that it materially signifies which caustic you employ; but in such a situation as this, within the mouth, you can more easily regulate the acid, as it does not spread beyond where you apply it, and even this effect you can directly stop by a little chalk rubbed on it. Potassa fusa, on the other hand, is very deliquescent, and is carried by the blood about the neighbouring parts, so as to injure them, even in spite of vinegar, which you should always have at hand to neutralise the alkali, by means of a little sponge or lint on a forceps or stick. The actual cautery would also do for a superficial part, but not for the hollow of the socket, and I doubt whether the nitric acid would easily have acted on the bottom of this cavity. I should therefore probably have applied a little chloride of zinc on a piece of lint, and forced it in by a compress of lint, just as I checked the hæmorrhage by pressure, putting some soda or lime on the lint, to prevent the deliquescent salt from doing any harm. I found, however, when I next went into the ward, that the patient had gone home, impatient to return to her children, and perhaps rather frightened at the idea of the caustic being repeated, now that she has, as she thinks, got rid of the tumor. It is probable, therefore, that the disease will return, for which she will have herself only to blame, as she has been informed of the chance she has incurred.

II. The next case for your notice is a complicated one, which is headed nævi, warts, and aqueo-cystic tumor of the forearm; which you have seen in a young woman, Frances Connor, 17 years of age, who was admitted on the 8th of April, with this account, which I will read:—

She has a tumor, about the size of a arge orange, at the upper part of the front of the left forearm, of a firm and solid texture externally, but presenting a very decided feeling of fluctuation internally. Above the tumor also is a small detached portion, circumscribed, of the size of a large nut, with a perceptible feeling of fluctuation on pressing it. It was, in fact, rather too tense actually to fluctuate, though the existence of fluid was probable. This tumor is subcutaneous, as proved by the motions of the muscles of the forearm being perfect, but the motions of the elbow-joint cannot be perfectly performed, as the tumor in front presents complete flexion. The skin covering the tumor is of a darker colour than that of the sound skin, and is covered with a few small warty tumors; the veins are distinctly seen passing beneath the skin over the upper margin of the tumor, but are not seen below this part. This tumor is slightly painful on pressure, and pains her much on using the arm.

At the lower part and front aspect of the forearm, and separated from the upper tumor by a distinct interval of an inch in extent, is felt an elastic mass of soft substance of several inches in breadth and length, and nearly an inch in thickness, and having the same degree of solidity as in parts of the upper tumor, but not so painful. This also is subcutaneous, and the skin over it is covered in a much greater degree than the other tumor with a number of dark-brown warty excrescences, and spots of cutaneous nævi, of simple varicose vessels for the most part, the cuticle of which is very thin, so that they bleed from time to time spontaneously. The skin covering this soft tumor is of the same peculiar dark colour as the skin over the upper tumor, from the vessels in its substance and below it.

The whole of this is congenital, but the upper tumor was originally of the same thickness and feeling as the lower part; the lower tumor has remained stationary, while the upper has undergone a change.

This patient was at first admitted as an out-patient of one of my colleagues, nine months ago, for an attack of inflammation and much pain in the upper tumor, (which was supposed to be fat). This inflammation caused an increase of its size, but was relieved, and a fresh attack came on in March last, which has left it in the state described; the tumor has been blistered and leeched, and the tincture of iodine and cold lotion were applied before her admission under my care.

Now, first, with regard to the warts present in this case; you saw that they presented the usual appearance of this growth of the papillæ, and that they were subject to the effects of inflammation of the skin, so that after I had induced inflammation by rubbing the cyst, they increased considerably

in size, and were painful, and were disposed to secrete pus between their folds, and again that they lessened in size when the inflammation ceased. They give no trouble, however, commonly, and to our patient their appearance on the arm was of no importance, and I did not think it worth while to do any thing further, particularly as the caustics necessary to destroy so large a surface would perhaps have induced ulceration of an unhealthy character in the nævi below them, and when once begun in this structure ulceration sometimes spreads for a considerable distance; I have known the life nearly destroyed by an ulcerated nævus reaching as this does from the wrist to the elbow.

Next as to the blood-vessel disease, the existence of which was obvious from the colour of the subcutaneous structure visible through the half transparent cutis, which was itself also somewhat diseased, numerous varicose vessels being seen in points on the surface, their size varying from excitement or inflammation, and the increase of size from these causes ceasing, as soon as the inflammation terminated; you might have seen the points opened by abrasion, and you could squeeze out a portion of coagulum from the orifices again and again, as the vessels filled with blood; and this structure was evident both in the upper and lower swellings, and closely resembled the external appearance of a large nævus in this cast and drawing, in which the varicose points bled more than in this girl.

Now it did not appear to me that I was called upon to treat the disease of the blood-vessels in this case, which seemed much too extensive to be lightly meddled with, extending as it did over more than half the circumference of the forearm, and reaching nearly from the wrist to the elbow. It was a congenital affection, which the patient had now had for 17 years, and in that time it had not undergone any perceptible increase disproportioned to the increased size of the limb; the tumors gave her no inconvenience, as far as this structure was concerned, except where the vessels came in points to the surface, but a drop or two of blood from them occasionally was of no consequence, and the little abrasions could be easily healed with a slight touch of lunar caustic, a piece of which I desired her to have in her possession when she left us, for herself to apply to them.

But the upper part had for nine months undergone some change, which had made it become painful, and prevented her using the arm freely in consequence of this pain, and the increase of size it had attained during that time. Let me, then, next make a few remarks to you on the structure of nævi, in order better to make you understand this alteration of the upper tumor, without my entering, however, in detail into the subject, and without any notice of their treatment.

First, then, you may have observed what are called nævi flammei; marks of various extent of the surface only of the skin, in which it is obvious that numerous superficial bloodvessels, chiefly capillaries, are enlarged and tortuous, and anastomose freely with each other; the disease being generally stationary even when covering the greater part of a limb, or nearly the entire surface of the body; varying in colour, however, so as to be bright red or purple, according to the condition of the blood, or the state of the circulation. Sometimes you see a single point only of arterial blood, somewhat prominent, with vessels ramifying unaltered in structure around it, constituting nævi aranei; at other times, as in our patient, points of varicose veins only come to the surface, and sometimes in great number if there is also anything below the skin of the same kind.

Secondly, and more commonly, you meet with cutaneous or subcutaneous nævi, or a mixture of both, constituting distinct tumors of greater or less thickness, varying in colour as arterial or venous blood predominates, if the skin is affected, and generally purple or dark, when situated chiefly below the skin as in this patient. These nævi obviously consist in general of tortuous and varicose and dilated capillaries, embedded in a rather tough cellular tissue, and you can empty them, or allow them to fill at pleasure, by varying the pressure upon them; the coats of the vessels being perceptibly diseased, so that hæmorrhage from them is dangerous, while the vessels going to them and coming from them are in their natural state. Sometimes the veins coming from such a congeries of diseased capillary vessels are also varicose and dilated, so that you can feel them below the skin, just as in a case of varicocele; at other times one or more of the arteries going to them are diseased also, enlarged and softened to a little distance, pulsating visibly or sensibly, or communicating also a pulsation to the whole tumor; such an addition rendering them what John Bell has denominated aneurism by anastomosis.

But, in the third place, this surgeon has asserted that tumors of the blood-vessels of this kind have within them numerous cells, with which the blood-vessels have free communication, as in the natural structure of the gills of the Turkey cock, or the corpus cavernosum; and this description has been followed by Wardrop and other authors; and Dupuytren, following the same idea, has given the name of erectile tissue to these new formations, from their resemblance to the natural erectile tissues of the body.

The structure of nævi, whether pulsating or not, has been, however, a disputed question. Certainly, I think, there is in general no such formation of cells, but the tumor consists solely of dilated capillary and other vessels. Even in a remarkable case, which occurred in the London Hospital, and has been described by Mr. Curling, where large external tumors communicated with great masses of similar character in the chest and abdomen, the disease examined on this great scale consisted only of blood-vessels of various sizes in cellular tissue.

But, in some few instances, there is an appearance of irregular cavities, which are probably dilated veins, communicating with the course of the undilated veins, as they contain coagula, and which have only the appearance of cells, when cut across, in the same manner as the tortuous vessel, folded in the vesiculæ seminales, gives the form of cells to those bodies.

It is very seldom that an opportunity is afforded of examining a large blood-vessel tumor; I had the power of doing so in the case of which this cast gives a likeness, in which you see that the tumor was of several inches in diameter, and not less than two inches in thickness; it was congenital, but had much increased for some time before the patient, a boy of seven years of age, came under my care, and numerous vessels, which bled a good deal from time to time, had lately appeared in the cutis. I removed it by ligature, and in the section of the tumor on the table, and in the drawing also, you may see in addition to the usual vessels that several apparent cells exist. Now some of these cells were filled with coagulum; their structure appeared identical with the other veins, of which they constituted as it were aneurismal pouches. So that in this respect they resembled what has been described and figured by Bell and Wardrop.

There were, however, besides these, some other cysts, which contained only serous fluid, and which were to all appearance close shut sacs,—serous cysts; their size being about that of peas, one or two somewhat larger than this, and others smaller. Now all tumors may form cysts, particularly when they grow without pressure, as into a cavity; I have mentioned already even the fibrous tumor, dense as it is, having cysts, and even dilating so as to contain fifteen pints of fluid. In cellular tissue serous cysts often form; occasionally many in close proximity, forming a half solid cystic tumor. Such, then, had formed in the nævi of our patient, and dilated to a great size.

The existence of cysts in this case necessarily complicated the diagnosis in some measure, and you observe that the notes say the tumor had been supposed to be formed of fat, to which the elastic cellular tissue and vessels of a subcutaneous nævus bear certainly some resemblance; and probably at the commencement the quantity of fluid in the cysts was smaller than on the patient's admission, giving an elastic feeling to the cyst when half full, or an appearance of solidity if tense, instead of a sense of fluctuation. I remember a patient of Mr. Babington's, in whom there was similar obscurity, and on dissecting out the tumor, a small encysted tumor, of the size of a large nut, was found entirely surrounded by a thin layer of the structure of nævus.

The appearance of fluid, however, was quite distinct on her admission; but from the inflammatory attacks, which she was said to have had for some months, I was not quite certain that it might not be purulent; for a chronic abscess in a new growth, such as a nævus, might easily be without redness or other sign of matter. I believed it was a cyst, however, and on the 18th, when I had learned her previous history, I punctured the upper tumor with a grooved needle internally where the sense of fluctuation was greatest, and about half an ounce of straw-coloured transparent fluid came away; and on the 15th it is stated that two small tumors had become more apparent above the elbow by the lessened size of the chief cyst, and seemed also to be cysts. On the 17th I punctured the same cyst again, and let out six drachms of the same fluid, and I now rubbed the cyst a good deal in order to inflame it. On the 20th I again punctured it, as it was refilling, and rubbed it still more, as well as the small ones above, which contained the same fluid as the other. The effect of this was, as the notes say, to make the tumor hot and red, and sore and painful; and the warts increased in size, and many spots of the vessels of the nævus were now seen on the surface of the skin like those of the lower part of the arm, and even these latter vessels became larger; but notwithstanding this, the fluid reformed in each of the cysts. I now therefore altered the plan in some measure, and on the 4th of May I again punctured the cysts with a needle, and rubbed them a good deal, and then I applied a compress over the tumor to bring the sides of the cysts in contact, and kept them so by a splint along the front of the arm, secured by strips of plaster and a bandage.

This treatment has apparently succeeded in perfectly obliterating or curing the cysts; no inflammation now remains in them; the various vessels of the cutis and the warts have returned to their former size; there is no pain or inconvenience in using the arm, or handling the tumor, which is quite soft and elastic like the lower part of the arm, except at one spot, which may possibly be a minute cyst at the lower end of it, deeply

situated; but as I punctured it without seeing any liquid, it may only be a little condensation of the cellular tissue in that part of the nævus, such as is often felt in such structures. I have directed her to come again in a fortnight to shew herself, after she has returned to her employment, which she has not been able to follow for above nine months.

The cysts appear to be obliterated, as I have said, but it may be, perhaps, that there is only a new action excited in the sac, by which the tendency to secrete fluid is destroyed; just as it is with regard to hydrocele, in which it does not appear necessary to produce adhesion of the sides by means of organised lymph, though the membrane is not refilled after injection; at any rate, bring the sides of a serous cyst in contact, and even without inflammation the disease is sometimes cured, as I have seen in a cyst of the liver containing not less than three pints of liquid; still more may you expect a cure if inflammation be previously excited, as in our patient was done by friction.

Had not this plan succeeded, it was my intention to have made a larger opening into the cysts, and dressed them in with lint, which is another method of curing these serous encysted tumors, for sometimes it is necessary to obliterate them by suppurative inflammation, instead of the adhesive; indeed, an incision or a seton is not unfrequently required; as, for example, with encysted hydrocele of the cord, and what is called hydrocele of the neck, which can very seldom be cured by a less degree of inflammation. I was unwilling, however, in the forearm (indeed, you will seldom be justified in doing so in any part of the body) to resort to an incision till I had first proved that milder remedies would fail, because the inflammation of an abscess of any kind, in connexion with the numerous muscles and tendons of the forearm, is liable to cause much impediment to their freedom of motion; it seemed, moreover, particularly undesirable in this case on account of the connexion of the cysts with the blood-vessel tumor, as unhealthy suppuration and sloughing to some extent would very probably have followed it.

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## REMARKS ON A PECULIAR FORM OF ADIPOSE TUMOR.

### BY SIR B. BRODIE.

There is another kind of fatty tumor which occurs occasionally, but which has not been, as far as I know, described by surgical writers. In the cases to which I allude the tumor is not well defined; in fact, there is no distinct boundary to it, and you cannot say where the natural adipose structure ends, and the morbid growth begins. I will relate the history of one of several cases of this kind that I have met with, and this will explain as much as I know of the matter. A man came to this hospital several years ago having a very grotesque appearance; there being an enormous double chin (as it is called) hanging nearly down to the sternum, and an immense swelling also on the back of his neck, formed by two large masses, one behind each ear, as large as an orange, and connected with a smaller mass between them. He said that the enlargement had begun to shew itself three or four years before, and had been increasing ever since. They gave him no pain; nevertheless they made him miserable, and in fact had ruined him. The poor fellow was by occupation a gentleman's servant, and having so strange an appearance no one would take him into his service. I gave him half a drachm of the *liquor potassæ* three times daily, and gradually increased the dose to a drachm dissolved in small beer. When he had taken the medicine for about a month, the tumors were sensibly diminished in size. He went on taking the alkali, and the tumors continued to decrease. It was just then that iodine began to have a reputation—much indeed beyond experience has proved it to deserve—for the cure of morbid growths, and I left off the *liquor potassæ*, and prescribed the tincture of iodine instead. The effect of this change of treatment was remarkable. The patient lost flesh, while the tumors increased in size. Of course I omitted the iodine, and prescribed the *liquor potassæ* a second time. Altogether he took a very large quantity of the latter medicine, and left the hospital very much improved, with directions that he should continue to take it with occasional intermissions. I had lost sight of him for some time, when it happened that I was requested to visit a patient in Mortimer Street. I did not observe the patient who opened the door, but, as I was leaving the house, he stopped me, saying that he wished to thank me for what I had done for him. It was this very patient. He was so much improved in appearance that he was enabled to procure a situation as a footman. There were still some remains of the tumors, but nothing that was very remarkable. I have seen some other cases of the same kind, in which the exhibition of very large doses of the *liquor potassæ* appeared to be of great service. But I have not had the opportunity of trying it, or of knowing the results in every case; and I am informed that, in some cases, it has been given to a considerable extent without manifest advantage.—*Lectures illustrative of various Subjects in Pathology and Surgery.*

A COURSE OF

# LECTURES ON DENTAL PHYSIOLOGY AND SURGERY,

*Delivered at the Middlesex Hospital School,*

By John Tomes, Esq.
Surgeon-Dentist to the Hospital.

## Lecture VIII*.

*Irregularity in the position of the permanent teeth—general remarks.—Anterior position of the under teeth, or "underhung."—Antagonism of the cutting edges of the upper and lower front teeth.—Excessive prominence of the upper front teeth.*

Gentlemen,—To-day I shall bring to your notice the various deviations from the normal arrangement of the teeth. You have been told that the front teeth, (by which I mean the incisors and canines), with the bicuspides, occupy in the well-formed jaw a semicircle, and that the molars extend backwards from the two ends of the semi circle, in slightly diverging lines; thus forming together an elliptic curve. In this curve no tooth projects before or recedes behind the neighbouring teeth. Such is the normal arrangement of the perfectly developed teeth in well formed jaws. Instead, however, of the teeth presenting this even and uninterrupted line, we occasionally find that one or more teeth are placed either external or internal to the line, the teeth themselves being at the same time individually well formed. In the normal position each tooth has its anterior and posterior, or to speak more correctly its buccal and lingual surfaces, placed at right angles to the radius of the curve which it contributes to form; but a tooth may be twisted on its axis, and have these surfaces in a line with the radius, and present its sides instead of the broad surfaces, anteriorly and posteriorly, and thus constitute a form of abnormal position. Mr. Saunders, in his lectures before referred to, speaks of a case in which a front tooth was twisted half way round, so that the proper lingual surface was anterior. In the normal arrangement the anterior teeth of the upper close over and in front of the corresponding teeth of the under jaw. In some cases, however, from malposition of the teeth, or from want of a proper ratio in the growth of the upper and lower jaw, the upper teeth close posterior to those of the lower jaw,—a condition commonly denominated "underhung."

Instead of the under teeth closing anterior to the upper, we find in some instances that they close upon the cutting edges of the upper teeth; this constitutes another form of irregularity, though partaking of the same character as the preceding form.

A third form of abnormal position occurs where the front teeth do not come together at all, a space of variable width separating them when the mouth is closed.

From what has been stated you will observe that the subject, so far as the front teeth are concerned, divides itself into two heads; first, abnormal position of the whole of the front teeth; and secondly, abnormal position of part of the front teeth, or perfect and partial irregularity of the front teeth.

The causes of abnormal position of the teeth are almost exclusively of a mechanical nature, and may be divided into four classes. First, want of sufficient room in the alveolar arch for regular arrangement. Secondly, abnormal position during development, as regards the fangs of the preceding temporary teeth. Thus, supposing the cutting edge of an incisor at the time of formation be placed anterior to instead of (as is normal) posterior to the fang of the milk tooth, the permanent tooth will come down and occupy a position anterior to the proper place. Thirdly, non-absorption of the fangs of the milk teeth, and consequent prolonged presence of the milk tooth; thus obliging the permanent tooth to take an anterior or posterior position. Fourthly, a more rapid growth in the one jaw than in the other, producing undue prominences of the teeth or abnormal development of the jaws. In a preparation on the table the teeth are well formed, and arranged normally, yet when the jaws are closed and the molars brought in contact, the front teeth do not meet by a quarter of an inch, arising from the peculiar form of the lower jaw.

In the foregoing classification I have enumerated to you the principal kinds of dental irregularity, with the causes producing them. In practice, however, you will not be able to classify from its cause each case of dental irregularity in the manner I have

* The paper on "Cancrum Oris," by Dr. Henry Hunt, to which I referred in my last lecture, is continued in Vol. xxvi. of the Medico-Chirurgical Transactions. Dr. Hunt gives the following as the result of his experience:—

"The quantity of salt (chlorate of potash) I have been in the habit of prescribing varies from twenty to sixty grains, according to the age of the child, in divided doses, in twenty-four hours, dissolved in water: the beneficial effect is often observed on the following day, almost always on the second; the disagreeable fœtor soon lessens, the sores put on a healthy reparative action, the dribbling of saliva diminishes, and if there is mere ulceration, it speedily heals, if there is an eschar, it soon separates, and the sore granulates kindly. It is sometimes advisable, indeed necessary, that the aperient should be occasionally repeated."

done in this description; on the contrary, you will meet with cases in which the producing cause partakes in some degree of the character of each division, and yet does not belong to either exclusively. However, by adopting this somewhat arbitrary division of the subject, I think I shall be able to give you directions for recognizing the cause of irregularity, and the treatment to be pursued; and in a more intelligible form than though we treated the matter with less system.

It is only necessary to recognize the cause of dental irregularity to pronounce with certainty whether the evil admits of remedy.

If malformation of the jaw be the cause there is but little hope of remedy; if the jaws are too small to admit of the natural arrangement of the teeth, but are otherwise well formed, then we may, by the judicious application of mechanical means, with which I shall presently make you acquainted, reduce the teeth to their normal position.

*Treatment.*—When we see how much can be done by orthopædic surgery in restoring crooked and deformed limbs to the natural form, whether the patient be middle-aged or young, we should at once conclude, even without the aid of experience, that much might be done to remedy irregularity in the arrangement of the teeth; and we should become more certain of our point when we observe that if the molar teeth from age or accident be lost, the under incisors closing against the posterior inclined surfaces of the upper incisors, slowly but surely force the latter outwards.

But experience proves that when dental irregularity arises from any other cause than malformation of the jaws, the malplaced tooth or teeth may by steady and continuous pressure be reduced to the proper position: sufficient alveolar space, of course, having been by some means gained.

The treatment, then, mainly consists in applying steady uniform pressure upon the irregular tooth in the direction of the place you wish the tooth to occupy.

What has been said of irregularity in the position of the front teeth applies generally to irregularity in the bicuspides, as also to the molars, though the latter are less frequently subject to irregularity in position, and when it does occur the degree is very slight, amounting, except in rare cases, to nothing more than the one standing a little out, and the next a little in, thus forming a zigzag line. The wisdom teeth, from its peculiar situation in the jaw, is liable to several characteristic forms of irregularity leading to great inconvenience;—we will therefore notice these after going through the forms of irregularity with the treatment in the more anterior teeth.

From this general outline we will proceed to consider our subject in detail.

*Complete irregularity in the front teeth.*

It can scarcely happen that we have irregularity in the teeth of one jaw without a corresponding irregularity in the teeth of the other jaw; the one following as a consequence of the other.

The most common abnormal position occurs in those cases where the upper teeth on closing the mouth pass behind those of the under jaw. This condition, when once established, is permanently maintained by the teeth of the under jaw, for where there is any force tending to press the upper teeth outwards into their proper position, the act of closing the mouth, and the consequent pressure of the under teeth upon the anterior surface of the upper, would press them inwards, and thus overcome the force employed by nature to remedy the defect.

This form of malposition of the teeth may arise from several causes. Thus the under jaw and teeth may be developed more rapidly than the upper. The incisors of the under jaw usually appear before those of the upper jaw, and take their position internal to the temporary teeth, which at the time are usually loose and quickly fall out, and then the succeeding teeth come forward and occupy their places. But while this is going on, the upper incisors usually appear through the gum, coming through internal to the temporary teeth. Supposing, however, that the temporary are not loose, but retain their places, the permanent teeth are then forced still more internally, and if the front teeth of the under jaw have progressed in their development they will close between the temporary and permanent teeth of the upper jaw. The teeth having once assumed this position necessarily retain it unless mechanical means are resorted to for remedying the defect.

A third cause of the posterior position of the front teeth of the upper jaw may arise in the permanent teeth of the under jaw coming through anteriorly to the temporary teeth, so that the upper teeth closing behind them tend to force them still further outwards.

*Treatment.*—The causes of the reversal of the relative position of the front teeth of the two jaws you have seen is purely mechanical, and that the defect is maintained by a mechanical cause. Our treatment must therefore be mechanical also. The first thing we have to do is to prevent the front teeth from closing, thus disabling them from exercising any influence upon each other. This is effected by placing caps of metal or ivory upon the masticating surface of the molars of the upper jaw, and of such a thickness that when the mouth is

closed the front teeth no longer meet. Having attained this point, a steady uniform pressure must be directed against the posterior surface of the misplaced teeth, and continued till, on removing the caps upon the molars, the upper teeth are found to close in their natural position: the position having been once gained is retained by the action of the under teeth upon the inclined posterior surface.

There are three methods of applying the pressure to force the teeth outwards. In one a fixed point is gained by fitting a piece of ivory to the hard palate and the surfaces of the necks of the teeth, to which it is tied so as to prevent the possibility of motion: pieces of dry compressed wood are then interposed between the ivory and the necks of the teeth you wish to be moved outwards. The wood on absorbing moisture swells, and as the fitted ivory cannot be moved backwards the teeth are necessarily moved forwards. After the wood has remained about eight-and-forty hours it should be removed and a fresh piece of dry wood put in its place, which on swelling force the teeth still further outwards. The renewal of the wood is repeated till the teeth have assumed the required position; the ivory is then removed from the palate and the caps from the teeth, and the process is allowed to be completed by the action of the upper and under teeth upon each other; the under forcing the upper outwards, and the upper pressing the under inwards, till the molar teeth come in contact, when the front teeth assume their permanent place.

In the second method the fixed point is made anterior to the teeth, and is accomplished in the following manner:—Caps, as in the former case, are fixed upon the molar teeth; from thence a strong piece of flattened gold or silver wire is made to pass in front of the teeth. Opposite each tooth the wire is perforated with one or two holes, through which a ligature of silk is passed round the neck of the tooth; the silk is then tied tightly to the wire. The teeth by the action of the silk are dragged outwards. The ligature requires to be tightened or removed from time to time till the teeth have assumed the required position, when the apparatus is removed. Instead of silk the vulcanised Indian-rubber is frequently used. The third method of treatment consists in fitting metal to the surface of the front teeth of the lower jaw. The plate is continued upwards above the edge of the teeth, but instead of proceeding in the same line, is turned inwards, so that on an attempt to close the mouth the piece of metal passes behind the teeth of the upper jaw, and presenting an inclined plane, forces them outwards. The success of the method of treatment will be greatly enhanced by capping the molar teeth.

Of the three forms of treatment I have described to you I much prefer the first, being more easy of application, more rapid in its effects, and less troublesome to the patient than the two succeeding methods.

A second form of complete irregularity of front teeth is when the upper and lower close upon each other. In this case the cutting edges are quickly worn down, and the teeth look short and stunted, or, losing the molars, the front teeth then become worn down to the level of the gums, and the pulp cavity filled by vascular dentine, rendering the remaining portion of the tooth solid.

This condition differs only in degree from that which I have described, and though, as far as personal appearance is concerned, it is less objectionable than that, yet in its effect it is more injurious. Where the upper teeth close behind the under, the teeth themselves are not injured, but where they close upon each other the thin edges are soon worn, and the teeth cease to be strictly incisors, but are capable only of crushing.

The treatment necessary for the reduction of this irregularity is precisely similar to that required in the treatment of the "under lining."

However, in these cases, if attention is directed to the subject early, the simple pressure by the thumbs of the upper teeth outwards will in many cases, with a little care and perseverance, place the teeth in their proper relative position; especially if frequent attempts be made to place the under teeth by drawing back the teeth of the under jaw behind those of the upper jaw.

As a further means of restoration the teeth may be closed upon some substance, a piece of wood, or the handle of a tea-spoon, and the spoon pressed downwards: by the motion the upper teeth will be pressed outwards by that portion of the spoon within the mouth, while the under teeth acting as a fulcrum will be pressed inwards. This simple operation will, if frequently repeated, tend to reduce the teeth to their proper situation.

A third malposition of the front teeth occurs in an excessive prominence of the upper set. The front teeth press into the lips, are constantly exposed, and when the mouth is closed rest upon the under lip. This form of irregularity is more or less connected with the defective development of the superior maxilla. The alveolar processes are developed at a considerable angle with the general surface of the face, and the edges embracing the necks of the teeth are therefore very prominent. This prominence might arise from several causes. Thus the permanent teeth might come down in front instead of behind the temporary teeth and their alveoli, and supposing the milk

teeth to be present a little beyond the usual period would at once tend to the deformity in question.

Again, if the incisors are long, and the molar teeth short, the under incisors on the mouth being closed, will, instead of resting upon the basal ridge of the upper teeth, press down the inclination of the ridge, and finally get fairly behind the teeth, and with their edges against the surface of the gums. We often see this state produced when, from age or some other cause, the molars and bicuspids are lost.

*Treatment.*—The first thing to be done towards remedying this evil is to remove one or two bicuspid teeth, so that space may be gained for bringing the teeth inwards, which may then be effected by pressure inwards, the fixed point being either external to the teeth in the form of a band of metal, or internal to the teeth in the form of a piece of ivory fitted to the palate.

Before, however, we proceed to the remedy, we must look closely to the cause which has produced the evil or which keeps it up.

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ILL SUCCESS OF REMOVING THE ENDS OF THE BONE IN CASES OF UNUNITTD FRACTURE. BY SIR B. BRODIE.

An operation was formerly recommended, but a very severe one, in which the surgeon made an incision on the broken ends of the bones, turned them out through the wound, sawed off a portion of each of them, put them back into their place as nearly as could be; afterwards applying splints, and treating the case like one of compound fracture, into which it was, in fact, converted. Of course those who had recourse to this operation expected that it would effect a cure. But I have talked on this subject with surgeons of experience of the old school, who told me that, although they had seen the operation frequently performed, they had never known it to answer the intended purpose. Some years since, a provincial surgeon of eminence communicated to the Royal Medical and Chirurgical Society an account of a case in which he believed he had performed this operation successfully. But I have since been informed, on what I believe to be indubitable authority, that he mistook the thickening of the soft parts, which followed the operation, for bony union, and that the event proved that there was no bony union whatever. I believe that it is now acknowledged that the success of this operation is, at any rate, very problematical; and, as it cannot but be attended with some degree of hazard, I do not suppose that any modern surgeon, having a moderate share of prudence, would undertake it.—*Lectures on Surgery and Pathology.*

## Original Communications.

TABLE OF

## SECONDARY INFLAMMATIONS, &c.

WITH OBSERVATIONS,

By Henry Lee, Esq.

Formerly House-Surgeon to St. George's Hospital.

[Concluded from p. 992.]

The first form in which the skin may be affected occurs very rarely; it consists of small deposits of matter, which take place in the structure of the skin, and resembles in many respects the pustules of small-pox. The second form presents itself more frequently, although its occurrence in combination with the secondary affections which we are now considering has not been noticed by pathologists. It commences generally very suddenly, and frequently without any particular attention being directed to the part, by a circular patch of congestion, livid or purple in the centre, and becoming of a lighter colour towards the circumference. In the centre of this patch mortification very rapidly takes place, and is indicated by the black or dull leaden colour of the part. In some cases it is difficult to say where the mortification ceases and the congestion begins, but in others a distinct line of demarcation takes place; and under these circumstances it sometimes happens that the mortified part is surrounded by a zone of congestion of a bright red colour. The following cases, in addition to those contained in the preceding table, may serve as examples of the way in which the skin may be affected in these cases.

Case I.—W. Ford, æt. 33, was sent from the country to St. George's Hospital, for a hernia, supposed to have been strangulated, but which had returned of its own accord previous to his admission. He had been bled in both arms before leaving his house, and, as he appeared rather weak, it was thought right to let him remain quietly in the hospital for a short time. He continued quite well until the fourth day, when he had a rigor, followed by all the symptoms of severe phlebitis.

Erysipelatous redness appeared upon the left arm, and extended up in the course of the cephalic vein. Upon the eighth day this vein could be felt as a thick cord, extending from the bend of the arm to the clavicle. The patient now experienced pains in the calves of the legs, and in the ring finger, and ball of the great toe, upon the right side. He became extremely feeble, with a frequent tendency to faint, and died upon the tenth day. Upon examining the body a small deposit of thick pus was found upon the exterior of the right cephalic vein. The vein itself was thickened, so that a portion of it when removed retained its cylindrical form. Its lining membrane was of a very red colour, and the same appearance was continued through the axillary and subclavian veins. The joints complained of during life were distended with a turbid pus. Deposits of pus were also found in the anterior mediastinum and between the œsophagus and trachea; a large gangrenous spot was observed in the skin of the calf of the right leg. The accompanying discolouration in this situation was found to extend through the skin into the subjacent cellular tissue, which was distended with serum.

Case II.—John Beaumont, æt. 14, was admitted into St. George's Hospital for disease of the ankle. Two days after his admission some red blotches made their appearance upon the hands and feet, and he died within a few days. Upon examining the body a large foul abscess was found communicating with the diseased joint: several secondary abscesses were found in various parts, chiefly in the arms and in the left leg. Both feet presented vesications, situated chiefly upon the plantar surface, and containing a dark coloured fluid.

Case III.—Richard Mason was admitted into St. George's Hospital, on the 24th of January, 1844, for a small cancerous tumor of the lip, having two years previously been subject to diabetes. The tumor was removed, and the wound appeared to heal by the first intention; a small abscess, however, followed by some ulceration, subsequently appeared in the neighbourhood of the cicatrix. Nine days after the operation he complained of sore-throat and general uneasiness, and three days afterwards he was seized with rigors, followed by cold perspirations and coma. Upon a post-mortem examination a small deposit of matter was found situated below the fascia of the left thigh. The synovial membrane of the corresponding knee was highly inflamed, and contained a large quantity of pus. The right inferior extremity, from the hip to the toes, with the exception of the skin upon the fore part of the thigh, presented a dark livid colour. The same dark colour was observable in the muscles of the limb, which were infiltrated with blood and serum. The arteries and veins were discoloured, but in other respects presented nothing remarkable.

In these and similar cases, whatever may be supposed to be the cause of the mortification of the skin, it is evidently closely connected with that condition of the system which produces secondary abscesses; and the foul contents of these abscesses, as they occasionally, although rarely, present themselves, probably depend upon some disposition to gangrene, although actual mortification may not have taken place.

From the frequency with which diarrhœa takes place in cases of secondary inflammation it is probable that the mucous membrane of the bowels occasionally undergoes some morbid alterations, although no such appearances have as yet been recorded.

The brain and its membranes frequently present diseased appearances in those who die from secondary inflammation. These for the most part are altogether independent of any peculiar effects of the disease, but in some cases it appears probable that they are not altogether unconnected with it. In one of the accompanying cases the *pons varolii* and *medulla oblongata* were found of a pink colour, in consequence of congestion, where the system had become contaminated by the absorption of diseased secretion; and in another, a layer of purulent lymph was found within the cavity of the arachnoid, accompanied by marks of inflammatory action in the fourth and one of the lateral ventricles.

The serous membranes are peculiarly liable to be attacked by secondary inflammation, and when affected

suppurate with great readiness. They generally exhibit but a slight degree of vascularity, and sometimes even are not more injected than in their healthy condition. The pleura, however, when affected, presents some differences in these respects. It seldom suppurates, but frequently becomes highly inflamed, and secretes sometimes lymph, sometimes bloody serum only.

The local diseases which precede these secondary affections are of very various kinds, but always probably accompanied by the production of some purulent or diseased secretion. It frequently happens that a very small ulcer, which previously attracted little or no attention, will suddenly present a dry and glazed surface, and will be accompanied by an erysipelatous inflammation of the neighbouring skin. This, in some instances, will present itself as a slight blush only, but in others will extend in the form of erratic erysipelas over a great part of the body. It is generally of slower progress, of darker colour, and has a less decided line of demarcation, than common erysipelas. Its first appearance usually is in some part of the skin supplied by absorbents derived from the same source as those which supply the originally diseased or inflamed part, and it may be looked upon rather as a symptom of the diseased action there taking place than as a separate affection. Sometimes it will suddenly disappear as the symptoms of constitutional irritation manifest themselves, and again make its appearance as these subside.

The primary surgical diseases most likely to be followed by secondary inflammation are undoubtedly those in which some portion of bone has been involved. Sixteen out of the accompanying twenty-three cases were instances of this nature; and in four of these the cancellous structure of the bone was found discoloured after death by diseased secretion.

The local conditions which accompany or precede these secondary affections are principally of four kinds: 1st, Cases in which ill-defined abscesses form in the neighbourhood of a wound or ulcer; 2dly, cases in which the veins of a part have become inflamed; 3dly, cases in which the cancellous structure of some portion of bone has been exposed; and 4thly, cases where some unhealthy secretion is poured into the cavity of the uterus when not properly contracted. Under all these circumstances, except the first, which forms by far the smallest class, the parts are in a peculiar condition, the consideration of which will, in a great measure, account for the results that occur. When inflammation of a vein occurs, and its cavity is not closed by adhesion, the secretion from the internal surface of the vessel must mix with the blood, and is liable to be carried into the course of the circulation. This circumstance may account for the extreme degree of faintness occasionally observed, as in one of the cases above mentioned. The introduction of pus into the blood in this manner may probably prove the cause of sudden death. In the Museum of the College of Surgeons there is a preparation from a patient who had died in this manner, and in whom suppuration of the axillary vein had taken place. The coats of the vein were united below by adhesion, but above adhesion had not taken place, and the pus had become directly mixed with the blood.

In cases where patients have died of secondary inflammation it is not unusual to find the cancellous structure of the bone infiltrated with purulent fluid. Some of M. Cruveilhier's experiments upon animals appear to leave little doubt that pus, under these circumstances, may be directly taken into the blood. He has shewn that mercury artificially introduced into the cavity of a bone will be conveyed, by means of the veins, into the circulation, and that it will become deposited in minute globules in the capillary network of the lungs. Each of the globules so deposited becomes the centre of a patch of livid congestion caused by the surrounding coagulation of the blood in the veins, and is followed by hepatization of a portion of the lung in the immediate neighbourhood. Similar effects will follow the artificial introduction of pus or ink into the veins, and the analogy between these cases and those of secondary inflammation is too obvious to require illustration. But in other cases, where the cancellous structure of the bones remains in its natural condition, the veins of the part, when injured or divided, may never-

theless become the means by which the diseased secretion is absorbed. In healthy inflammation, such as is met with in surgical cases, the adhesive process always precedes the suppurative, and by this means a layer of lymph is deposited which at once limits the extent of the inflammatory action, and seals up any vessels that may have become implicated. During the existence of this natural barrier to the inflammation no ill effects are to be apprehended; but if this secretion of lymph does not take place, or is improperly performed, the divided vessels, in common with the other parts, lose the protection which it would otherwise have afforded. The vessels, however, derive another source of protection from the coagula of blood which close their extremities. In soft parts, as the coagula become absorbed, the veins collapse in proportion, and thus continue closed; but in bony structures, where the veins are held open by the unyielding nature of the canals through which they pass, the circumstances of the case are very different. Here the coagula of blood, which at first closed the divided veins, when absorbed, leave the open mouths of the tubes bathed in the secretion of the part. This may, in some measure, account for the fact, that secondary inflammation* seldom makes its appearance before the end of the second or third week in cases where the disease begins in the osseous system.

The veins of the uterus, like those of the bones, are peculiar with regard to the nature of their parietes. They are necessarily open when the uterus is distended, and closed when it is contracted, and by this means the large distended mouths of the veins which open upon the placental surface of the uterus become contracted after delivery. If the contraction of the uterus is complete, these veins become completely closed, but if it partially contracts only, the open mouths of these vessels may come in direct contact with the diseased secretion. Thus, in the great majority of cases in which secondary inflammation occurs, we may trace a direct communication between the purulent or morbid secretion, and the blood, and occasionally we may even see small globules of pus, which we suppose to have been absorbed, entangled in the capillaries of the lung, and thence giving rise to the characteristic secondary congestion. These globules of pus are distinguished from those formed by the commencement of suppuration, by the circumstance of their making their appearance before the affected portions have become condensed by the effusion of lymph; whereas some degree of induration always precedes the suppuration which is the result of secondary inflammation.

From the mode in which the particles of pus become entangled in different organs, it would appear that they enter vessels which are of too small a diameter to allow them to pass. But some other cause must evidently influence them in this respect, for otherwise they would be stopped the first time that they arrive at a system of capillary vessels. Experience, however, shows that they may go the round of the circulation many times before they produce the characteristic effects above described. Some change in the condition of the blood, independent of the presence of the particles of pus, might therefore be expected, and that changes of much importance do take place in these cases is evident by examining the blood even with the naked eye.

The following are some of the appearances presented by the blood in cases examined by Mr. Hewett, and not included in the preceding table. In a case of compound fracture of the leg, in which secondary deposits had taken place in the liver, the blood in the different cavities of the heart was found partly fluid and partly coagulated. The fluid part was thin and of a darkish brown colour; the coagulated part was loose and mottled, being partly brown and partly of a dirty yellow colour. In two other cases the coagula were found of the same dirty-yellow colour. In a fourth case, where the lung was studded with secondary abscesses, the blood contained in the right auricle of the heart was coagulated and mottled, being partly dark coloured and partly composed of a yellowish-grey opaque substance.

After an operation for necrosis of the tibia, followed in ten days by the usual symptoms of secondary inflam-

* Out of fifty-two cases of which notes are preserved, some portion of the osseous system was involved in forty-one.

mation, the following post-mortem appearances were observed:—The left lung presented, in several places, patches of red hepatisation, perfectly defined, and resembling so many spots of lobular inflammation; when cut into, these patches presented several puncta of puriform fluid. The veins of the lung contained fibrinous-looking coagula, blocking up their cavities; and in the centre of these coagula was a whitish purulent-looking fluid. In another case of secondary inflammation, some of the coagula from the heart looked like a mixture of blood and pus; portions of them were inelastic, and of an opaque yellow colour.

These instances are sufficient to shew that in cases of secondary inflammation many material alterations take place with regard to the condition of the blood; and, from what has been before stated, it cannot be doubted that these changes frequently depend on the presence of purulent or diseased secretion. The introduction of extraneous substances into the blood, as may be proved experimentally, tend to produce its coagulation, not only in the part where the foreign substance is introduced, but also in the capillary vessels at a distance. When any diseased secretion, therefore is absorbed, (whether purulent or not), we have all the conditions present which would produce local congestions, such as are observed in cases of secondary inflammation, and that independently of any mechanical obstruction produced by the size of the particles.

Secondary inflammation generally occurs in those who have been previously debilitated from any cause*; and it appears to happen more frequently in those who are subject to disease of the spleen than in others. In the accompanying cases the liver was diseased, independently of the secondary affection, in one case only; the kidney in six, and the spleen in eight cases. Disease of the liver does not, therefore, appear to predispose to this affection, nor are those organs which happen to be previously diseased more exposed to the effects of it than those which are apparently in a state of health. The other post-mortem appearances observed in the cases contained in the table may be thus briefly stated:—

| | | |
|---|---|---|
| Increased vascularity or congestion of the brain . . . | in | 5 cases |
| Inflammation of the lungs | in | 6 cases |
| Secondary affection of the lungs, | in | 11 cases |
| — of the liver | in | 2 cases |
| — of the spleen | in | 1 case |
| — of the kidney | in | 1 case |
| Peritonitis . . . | in | 1 case |
| Gangrene of the skin . | in | 4 cases |
| Effusion of lymph and serum, without pus . . | in | 4 cases |
| Pus in the veins . . | in | 4 cases |
| Pus in the joints . . | in | 6 cases |

13, Dover-Street, May 19, 1846.

* In one case a patient had been salivated immediately before an operation for hemorrhoids.

## CASE OF LACHRYMAL CALCULUS.
### BY MR. SYME.

A FARMER, from the neighbourhood of Carlisle, 37 years of age, applied to me on the 28th of August, on account of an obstruction in the lachrymal passage, which he had been told would require the introduction of a style. He stated, that between four and five years ago, he had let a little lime get into the eye, and, in consequence, suffered some uneasiness, which did not afterwards completely subside, and, three years since, had induced him to apply for medical advice. Various ointments and other applications having been tried without affording any relief, his mind was at length made up to suffer the operation that seemed requisite, under the impression that his complaint depended upon obstruction of the tears. I found considerable swelling and redness at the inner angle of the eye; and, when pressure was applied here, a discharge of turbid fluid from the lower punctum. On more careful examination, it appeared that the swelling was not in the situation of the lachrymal sac, but rather in the duct leading to it from the inferior punctum; and I also ascertained, by passing a probe from the nostril upwards, that the nasal duct was perfectly free. I therefore introduced a gold probe into the inferior punctum, and immediately detected a concretion, which was readily extracted, after the orifice and adjoining part of the sac into which the duct was dilated had been opened sufficiently by fine-pointed scissors. It was about the size of a barley-pickle, (barley-corn?) of an irregular form, with tuberculated surface, and of a dark brown colour, so as very much to resemble a mulberry calculus in miniature. This case is the only one of the kind that has fallen under my notice.—*Monthly Journal of Medical Science.*

## NATURE AND TREATMENT OF FLOODINGS AFTER DELIVERY.

By Edward Copeman, F.R.C.S.

[Concluded from p. 997.]

In the former months of pregnancy, the neck of the uterus remains elongated, and forms no part of its cavity; and if the placenta attach itself over that part of the uterine cavity opposite to the os internum, there is still no immediate connection between it and the cervix; but when, during a later period of pregnancy, the cervix uteri becomes obliterated, there must necessarily be a tendency to a separation between the uterus and placenta, before the os uteri opens; since by the dilatation of the cervix, the part of the uterus to which the placenta is attached becomes larger in circumference, and the placenta probably does not grow in an equal proportion: thus, when the placenta is in this situation, we have repeated hæmorrhages during the last month of pregnancy, before any actual labour commences, owing to the detachment probably of one or more lobes of the placenta; and when afterwards the placenta is removed entirely, it is not difficult to understand how, *after labour*, that portion of the uterus which before constituted the cervix, and was *during labour* much dilated and distended, may remain somewhat loose and flabby, and yet the neighbouring portion, to which the placenta had been attached, be sufficiently contracted to close the vessels. Tension, too, of the vessels during the dilatation of the os uteri for the passage of the child, may possibly have some share in causing coagulation of their contents or obliteration of their apertures. In short, there is scarcely any circumstance attending uterine hæmorrhages, either in the course of pregnancy or after delivery, that cannot be reasonably explained if the following explanation of the placental circulation be admitted; viz. that the maternal blood is conveyed into the spongy texture of the placenta by the uterine arteries, and returned by the uterine veins; and that the fœtal placental vessels pass in all directions through the reticulated portion of placenta, communicating freely with each other, but not with any other vessels or parts of the placenta. In a placenta which I recently injected from the umbilical arteries and vein, not a particle of the injection escaped into the cells of the placenta; the vessels ramified freely in each of the divisions or lobes, and were surrounded in their whole course by a beautiful reticulated structure, in some positions so distinctly cellular as to resemble an honey-comb; this spongy structure was full of blood, which must have been furnished by the mother, as the fœtal vessels did not anywhere open into it. This cellular part of the placenta formed a large portion of the whole, occupying the entire thickness of it from one surface to the other. The uterine arteries were not so distinctly seen, but I was enabled, by means of a blow-pipe, to discover several *tubes* upon the maternal surface of the placenta, which when undisturbed looked like shreds of membrane.

I think few practitioners of experience would differ from Mr. Adams in the treatment he advises for floodings after delivery, although they may be at variance with him as regards the *rationale* of it. There can be no doubt of the propriety of attending to position, applying cold, and giving opium; and I would add, using pressure or gentle friction with the hand upon the uterus externally. These remedies are successful in proportion as they induce contraction of the uterus; and if, when the uterus is firmly contracted, means are taken to keep it so, I cannot believe that hæmorrhage will continue. The application of cold excites the uterus to contract, and thus controls the hæmorrhage. Dr. Rigby says, "The sudden application of cold is a most valuable means; it acts here solely by the *shock* which it produces at the moment, and not by lowering the circulation and favouring coagulation;" and he proves this assertion by the following quotation from Dr. Gooch, in his description of a dangerous case of hæmorrhage.

"Finding the ice so inefficient, I swept it off, and taking an ewer of cold water, I let its contents fall from a height of several feet upon the belly; the effect was instantaneous; the uterus, which, the moment before, had been so soft and indistinct as not to

be felt within the abdomen, became small and hard; the bleeding stopped, and the faintness ceased,—a striking proof of the important principle that cold applied with a shock is a more powerful means of producing contraction of the uterus than a greater degree of cold without the shock."*

If Mr. Adams' theory be correct, the proper mode of applying cold would be to continue it so as to lower the circulation and favour coagulation; and the plan recommended by Dr. Gooch would probably be unavailing. The continued application of cold in these cases, however, may occasionally not only fail to stop the hæmorrhage, but actually have a contrary tendency; there are cases in which the loss has been so severe, and the powers of the body generally so weakened, that the uterus is insensible to the application of cold, its only effect being to chill the patient, and add to the depression under which she is suffering. Here it may be necessary not only to avoid, or discontinue, cold applications, but to apply gentle warmth to the surface of the body, to warm the extremities, and administer restoratives for the purpose of adding strength to the circulation. Such cases do every now and then occur, and such treatment does succeed; because with a return of general power, the uterus participates, and regains the irritability which disposes it to contract. This would certainly not be the way to stop hæmorrhage from wounded arteries; and is by no means consistent with what Mr. Adams describes as the cause of flooding. It is granted on all hands that opium is a grand remedy in uterine hæmorrhage; to that and the application of cold Smellie almost entirely trusted, and no one ever had greater success; but this does not prove that want of contraction of the womb is not the cause of the hæmorrhage. Opium allays spasmodic pain; it stops "false pains," but it does not prevent genuine labour-pains; they go on steadily as long as they are required, in spite of opium, as usually administered; it has no greater effect in putting a stop to the natural contraction of the uterus than in removing the pain of inflammation; but, on the other hand, it actually favours contraction by removing disturbing influences, such as exhaustion, irritability, restlessness, &c. It is as natural for the uterus to contract during childbirth as for any other function of the body to be performed in a healthy manner; opium produces general tranquillity of the system, and allows nature to perform all her offices, free from the interruption of diverting or obstructing causes.

With respect to the introduction of the hand to promote contraction of the uterus, I quite agree with Mr. Adams in thinking it ought never to be done except for the removal of the placenta or clots; indeed, I have never had occasion to resort to it for the removal of clots, and am much inclined to believe it generally unnecessary. I believe, moreover, that it is by no means a general mode of practice by those who understand the art of midwifery. In conclusion, I would observe, that after hæmorrhage has ceased and the uterus is contracted, it is surely advisable to keep it so by means of a bandage. There is a double advantage attending this proceeding; it not only prevents the uterus from becoming distended with blood, but also has a tendency to prevent that organ from becoming relaxed, by securing the patient against the faintness so likely to arise in consequence of the removal of the contents of the abdomen, which I believe to be a frequent cause of relaxation of the womb after delivery giving rise to hæmorrhage.

* Library of Medicine, vol. vi. p. 216.

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INSTANCE OF

## VALVULAR DISEASE OF THE LEFT CAVITIES OF THE HEART,

ACCOMPANIED DURING LIFE WITH A CONTINUOUS BELLOWS SOUND, HEARD AT THE BASE OF THE HEART, AND CAUSED BY THE BLENDING OF A SYSTOLIC AND DIASTOLIC BRUIT, SO AS TO SIMULATE A SINGLE BRUIT.

By Ray Charles Golding, M.D.

John Wheeler, æt. 24, 13, Rose Street, Covent Garden: admitted into Charing Cross Hospital, under Dr. Shearman, April 13th, 1846. By trade a painter and glazier: two years ago had an acute attack of rheumatism, caused by sleeping in a damp bed, from which he recovered in five weeks. He has had several attacks since, but

none of any great moment. He dates his present illness from four months back, at which period he was much exposed to the vicissitudes of the weather.

The symptoms were pain in the chest, dyspnœa, and cough; all of which subsided under antiphlogistic measures.

On admission the cough was urgent, and dyspnœa extreme, with a little expectoration of frothy mucus; palpitation of the heart great on the slightest exertion; a little œdema about the ankles especially towards night; no ascites; pulse soft, not very irregular, about 80, but did not answer each systole of the ventricle. His tongue was clean, and his appetite good; his urine contained much lithic deposit, was on that account scanty, high coloured, and of high specific gravity, (1028), was clarified by heat, and effervesced abundantly with nitric acid, shewing that no albumen existed.

The liver was ascertained to be enlarged, by the dulness on percussion extending nearly to the umbilical region.

The lungs were tolerably healthy, the only abnormality elicited by physical examination, being, that the respiration was rough, and various bronchial râles, (chiefly sibilant and sonorous, however), were heard. The percussion was good, and the expansion of both sides of the chest perfect. The signs just mentioned indicated congestion of the pulmonary tissue, with increased secretion from the bronchial mucous membrane, probably the result of inflammation; a complication easily incurred in cardiac disease, on exposure to atmospheric vicissitudes.

Percussion dull over the præcordial region; the apex of the heart beats between the sixth and seventh ribs; impulse strong; sounds feeble; rhythm much impaired. Between the cartilages of the third and fourth ribs on the left side, a continuous persistent bruit, prolonged and apparently accompanying both sounds of the heart; towards the apex a systolic bruit was perceptible; there was pulsation of the external jugulars, and great impulse through the carotids.

All the symptoms increased in severity, save those belonging to the lungs, which were mitigated by diaphoretics and sinapisms applied to the chest. The dropsy rapidly increased, but was nearly confined to the subcutaneous tissue of the legs, scrotum, and abdomen; a slight fluctuation was appreciated a few days before dissolution in the abdominal cavity.

No fluid was suspected to be redundantly present in the pleural or pericardial cavities, nor were there any symptoms, referrible to the head, to call attention to any thing abnormal there. The immediate cause of his death, (as is most usual in such cases) was fatal syncope, suddenly supervening. The treatment consisted in diuretics and drastic purgatives, an occasional opiate, counter-irritation by blisters, and sinapisms to the chest as occasion demanded.

All the above symptoms made it manifest that valvular disease of the left cavities of the heart existed, which was confirmed by autopsy.

The lungs were found congested, and the bronchial ramifications contained frothy mucus in large quantity; in other respects these organs were quite healthy; no hydrothorax existed; the heart was much hypertrophied; the mitral valve thickened, contracted, and contained calcareous deposits; the aortic valves were much thickened and contracted; both of these orifices must have been patulous during life, especially that leading into the aorta.

The kidneys and intestines were healthy; the liver was very much congested, somewhat hypertrophied, and presented a little cirrhotic deposit; the patient having been a hard dram-drinker.

Remarks.—All the symptoms in this case being referrible to one fundamental source, valvular cardiac disease, it became a matter of inquiry what particular valves were implicated.

The systolic bruit de soufflet at the apex, and a short distance towards the base of the heart, indicated mitral disease, but the difficulty consisted in easily determining the cause of the continuous and prolonged bruit between the third and fourth ribs, corresponding to the base of the heart.

The systolic bruit just mentioned appeared to run into the latter, so that every sound between the apex and base appeared confused.

The peculiarity in question con-

sisted in the following circumstances:—

The bruit was continuous, was heard between the cartilages of the third and fourth ribs of the left side, and could not be clearly defined as belonging to either sound of the heart exclusively; whilst the bruit towards the apex of the heart was distinctly systolic, accompanying the first sound, and consequently indicative of mitral disease.

From the apex towards the base of the heart, the bruit became gradually confused, and in the situation first mentioned (*i. e.* between the third and fourth ribs), was so continuous and prolonged as to be apparently belonging to and accompanying both sounds; now appearing rather more the concomitant of the one, now that of the other. Various auscultators examined this patient, and were divided in opinion as to the bruit being systolic or diastolic.

It appeared to me, therefore, after due deliberation, feasible to suppose, that the bruit was neither exclusively systolic or diastolic; that it was in fact both, blended as it were into one, and for the following reasons.

1. The sounds, though distinct, were not accompanied by the usual normal rhythm, so that it became difficult at times to follow with accuracy the first and second sounds, inasmuch as the former often supervened before the termination of the latter, and in that manner confused it.

2. The pulse was habitually quick and hard, which was partly referrible to the embarrassed circulation through the heart, but chiefly, I apprehend, due to concomitant bronchitis, which was acute. This condition made the heart act quickly and faintly; consequently less distinction could be drawn between the first and second sounds.

3. The very prolonged character of the bruit, and its continuity, clearly proved that something was superadded to the ordinary diastolic bruit, heard in that situation, where aortic valvular disease exists. From these circumstances it was considered that both mitral and aortic valves were diseased; and that a bruit accompanied both sounds of the heart, which by commingling and following each other in rapid succession, formed but one loud, continuous, and persistent bruit. Comparing the bruit at the base of the heart with that at the apex, the former was longer than the latter; a state of things seldom existing in the ordinary diastolic bruit of aortic disease. The post-mortem examination determined the correctness of the explanation.

The aortic valves must have been widely patulous, so as to have caused a diastolic bruit of tolerable intensity; from a similar condition of the mitral valve, a systolic bruit must have existed. The systolic bruit was heard at the base, and from the irregular manner in which the cardiac sounds succeeded each other, must have been followed, or often broken in upon by the diastolic bruit, so as to make the combined bruit (systolic and diastolic) appear but one.

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## ON CERTAIN OF THE CAUSES OF NON-UNION IN FRACTURES.

BY SIR B. BRODIE.

In most instances, I cannot doubt that the want of union is to be traced to a peculiar state of the constitution. A gentleman was growing fat, and not liking to do so, he placed himself on a very spare diet, though accustomed to good living previously. After six months of starvation, he broke his arm, and the bone would not unite. I saw him many months afterwards, and there was scarcely any union, even by soft substance. Another patient about whom I was consulted, a lady, also was growing corpulent, and she also thought that she might prevent it by pursuing a similar system of diet. Some months afterwards she broke her forearm, and union did not take place. A young man had been for many months living very low on account of a complaint under which he laboured, and under these circumstances broke both bones of his forearm. At the end of several months there was no union. Cases of ununited fracture are not very common, yet here are three among those which have fallen under my observation, in which the want of union seems clearly to be traced to the bad state of the constitution, produced by abstinence from food. A man broke his thigh; his bowels were costive, and his surgeon allowed him to remain without an evacuation for ten days after the accident, and in him the broken bones did not unite. We cannot be certain that it was this long-continued costiveness which prevented the union of the fracture, but it seems probable that it was so.—*Lectures on Pathology and Surgery.*

# MEDICAL GAZETTE.

FRIDAY, JUNE 12, 1846.

In the last volume of this journal, some remarks were made upon the alleged importation of the African fever, and the state of the Eclair steam sloop, which had recently reached this country from the coast of Africa*. The official report of the condition of that vessel on its arrival, by Sir W. Pym and Mr. J. M. Arnott, will be found at p. 1043 of the same volume. So soon as this report appeared, we did not hesitate to express the opinion, that the fever had certainly, in this instance, spread by contagion, and that it was probably some severe modification of the African coast fever, described by Dr. M'William as non-contagious. The report rendered it evident that the fever thus imported to our coast retained its virulent contagious character even after the arrival of the vessel at the Quarantine station of Standgate Creek. This inference was drawn from the facts—1, that so many medical men entering the ship at different places during the voyage had been attacked, and four had died: 2, that the coast-pilot taken into the vessel at Portsmouth was speedily carried off by an attack: and 3, that a physician who had volunteered his services on the arrival of the vessel at Standgate, had been soon afterwards seized with the fever†.

The circumstances which came to the knowledge of Sir W. Pym and Mr. Arnott in October last, appear to have left not the slightest doubt in their minds that there would be the greatest danger in allowing free intercourse with this pestilential ship; and subsequent events have most strongly justified the conclusion at which they then arrived. It was considered necessary, 1, to observe strict quarantine; 2, to separate the sick from the healthy so soon as an opportunity should occur without endangering the public health. Some dissatisfaction was expressed, at the time, that this plan of separating the sick from the healthy had not been adopted immediately on the arrival of the Eclair; and we gather from the correspondence now before us, that a proposition had been made by Dr. Richardson to remove the sick at once to Haslar Hospital. This was on the 29th September, 1845, when, on the day preceding, the following certificate had been given by Dr. T. H. Salter:—

Motherbank Quarantine Office,
Sept. 28, 1845.

I hereby certify that I have examined the commander and surgeon on board her Majesty's steam ship "Eclair." I find that as many as *sixty* have died of fever, and that as many as seven are still suffering from that disease. Three of the cases have commenced within the last week; and *the type of the fever is of the most severe form—that accompanied with black vomiting.* Under these circumstances, I have recommended the superintendent not to release the vessel, and submit this report of the case. I cannot but consider the disease contagious.

(Signed) T. H. Salter, M.D.

Dr. Richardson, however, in a letter addressed to the Admiral of the station, calls the disease the "bilious remittent fever," and ascribes its spreading among the crew to the fact that they had all been exposed to "malaria" on the coast. He further observes, "Notwithstanding the extraordinary mortality that has swept off so large a proportion of the crew of the vessel, I entertain no fears of her being the means of introducing epidemic disease into this country." At the very time these lines were penned, the so-called "bilious remittent" had actually, as we now find, begun to spread with fatal

* Pages 1001, 1029, 1076, 1129, 1171.
† Page 1076.

rapidity among the inhabitants of the hospitable island where the vessel had been allowed to take shelter on her way to England. Dr. Richardson's view was supported by the opinion of Sir W. Burnett; but fortunately for this country, judging from the facts now brought to light in the correspondence before us, these suggestions were not acted upon. The vessel was ordered to Standgate Creek, and arrangements were made to separate the sick without exposing any person to the risk of infection, or giving this "bilious remittent" the opportunity of diffusing itself through England. In our judgment, it certainly would have been better could this plan have been carried out on the first arrival of the vessel, without incurring loss of time by sending her to a remote Quarantine station; and Mr. Arnott, it appears, had entered into an arrangement to that effect with Rear-Admiral Parker. We learn, however, from the correspondence of Sir W. Pym, that there was a want of proper accommodation at the Motherbank; and, on the whole, it was considered better for the healthy and sick, that the vessel should proceed at once to Standgate Creek. The progress of the disease, after the arrival of the vessel there, has been already detailed in our columns, and we shall therefore pass to another part of the subject.

The most interesting portion of the correspondence before us is that which refers to the results which followed the visit of the Eclair to Bona Vista. Government has been for some weeks in possession of the important information, which is now for the first time laid before the public. The correspondence can, we think, leave no reasonable doubt that the fever of the Eclair was of the worst and most malignant form;—that its real character, as marked by the occurrence of black vomit, was concealed from the Portugese Governor General of Bona Vista;—that it was eminently contagious, and wholly different in its nature from the Coast remittent fever.

From a letter addressed to the Earl of Aberdeen by Mr. Rendall, our consul for the Cape Verde Islands, dated St. Antonio, December 22d, 1845, and received March 9th, 1846, we collect the following particulars:—

"Her Majesty's steam-sloop 'Eclair,' Commander Estcourt, anchored in Boa Vista harbour, the morning of the 21st August; pratique was at once offered to Captain Estcourt, but he replied that he could not think of taking it until he had communicated the state of his vessel, and the fact of the French at Goree having kept him in quarantine during her stay there, to the authorities on shore, and he wrote to me to the same effect. I immediately communicated the facts to the Governor-General, and he desired the English surveyor (Dr. Kenny) to repair on board, and to give pratique if the two or three cases of fever said to exist should prove to be the common African fever. Dr. Kenny reported that he had seen the medical officers of the 'Eclair,' and that the fever cases were as had been described, and that he had given the vessel pratique.

"The 30th of August Captain Estcourt complained of an increase in the number of sick, and was very anxious to remove them to the shore. A report, however, had gone abroad, that some of the fever cases had exhibited *black vomit;* and I mentioned the fact to Captain Estcourt, who assured me *that he had heard nothing to cause foundation for such a report.* Dr. Kenny also wrote officially, and communicated with the *medical officers of the vessel, but they declared the fever to be the common African fever.* I then waited upon the Governor-General, in company with Captain Estcourt, and asked permission for the landing of the sick. The Governor-General advised with the Portuguese surgeon (who happened to be present) upon the propriety of such a step, and as to danger by contagion; when he answered promptly, "Oh no, your Excellency, no danger at all: I have often brought sick men on shore coming in vessels

from the African coast, and I never knew any ill effects to arise." The Governor-General then ended the interview by offering to Captain Estcourt the use of the *fort upon the island*, which was at once readily and gratefully accepted, and the crew, sick and well, were landed there. Part of the officers were permitted to live in the town, a house having been taken there.

"Her Majesty's steam-sloop 'Growler,' Captain Buckle, arrived the 6th September, on her way to England. The crew of the 'Eclair' continued to get worse, two or three cases dying daily. Captain Estcourt fell sick on the 10th; and the 'Eclair' having then been nearly *thoroughly overhauled, whitewashed, fumigated, cooled, and watered*, by assistance from the shore, a board of officers agreed with Captain Buckle, of the 'Growler,' in the propriety of the 'Eclair' proceeding at once direct to England; and the two steamers left together, the 13*th September*, the 'Eclair' having had *thirty-five deaths while in the harbour*.

"The anxiety which this vessel gave me during her lengthened stay was, I assure your Lordship, of the most painful description. The daily reports of deaths; the alarm of the people; the belief that the fever was one of the worst description; and the fear of subsequent consequences; were all of the most distressing nature, although the opinions of the *medical men* continued to be that the fever was merely the *common African fever, and that no danger existed of its spreading among the people*.

"The fears of the people had not subsided at the events already recorded, when it was reported, the 20th September (*seven days after the steamer had left*), that one of the white Portuguese soldiers who had been housed at the island with the crew of the 'Eclair,' had died in the fort. The following day another also died, and the remaining soldier in the fort (a coloured man) was reported sick. Another coloured soldier was sent to assist his comrade, but who being also taken sick, the authorities at once abandoned the fort and island, and caused the two sick men to be brought to the town, and they were lodged in a house near the sea beach.

"Up to the 9th of October, extraordinary heat, and the fall of a large quantity of rain had been experienced, events which were surprising to the oldest inhabitant. The fever then began to show itself, and the first fatal case in the town is said to have taken place *in the house where the two coloured soldiers from the fort had been brought*, and recovered from their sickness. Each succeeding day, to the end of the month, gave two, and sometimes three cases daily, all *occurring within the immediate neighbourhood of the house where the first death took place*. A Portuguese surgeon had been brought from Porto Praia, who, with the Portuguese practitioner in the town, maintained that the fever arose from the presence of the stagnant water, and they so held the same opinion, until the 20th of November, when they *openly declared it to be a fever of the worst description, and of a most contagious nature*. From this date clean bills of health to vessels were refused, and all vessels leaving the port for any of the neighbouring islands, were subjected upon their arrival to be placed in quarantine for thirty days.

"Up to the first week in December the fever continued to rage, and at that period it had found its way into almost all the country villages—the deaths averaging seven and eight daily. The last report I have received from Boa Vista is to the 21st instant, to which date, 250 had died; but it is stated that for fourteen days previous there had been no deaths in the port and in three of the country villages, although the fever still existed in two of them.

"No Portuguese resident of any note has suffered; the English have, however, suffered considerably, having lost one-third of their number. The sickness prevailed mostly amongst the lower orders, and consequently there was much misery, even for the want of common food; and I regret to say they had little or no medical advice or medicine. The leading symptoms of the disease were black vomit, pains in the head, back, and thighs, with a suppression of urine, and often the breaking of a blood-vessel. It is said that there was also a fever of a milder type prevailing, arising from the presence of the stagnant water, which had not the same alarming symptoms, and gave way to proper treatment. *The fever proved contagious to those who*

*acted as nurses to the sick; this was observed to be the case almost without an exception.*

"The medical men recommended the European residents to leave the island, and the Governor-General, his family, staff, and all the *employés* attached to head-quarters, left on the morning of the 24th November for the Island of Brava. The Governor of the island, collector, and others, had left for the Island of Sal some days previous. Mr. Macaulay and family, Mr. Pettingall and family, had also left some time previous for the Island of St. Nicholas. The latter, with his family, unexpectedly returned to Boa Vista, and his daughter died on the 24th November, and himself on the 5th of December, while performing quarantine at the Island of St. Nicholas. I have the honour to state to your Lordship that I came over here with my family the 1st of December, leaving the Vice-Consul at Boa Vista. The great excitement which I endured for nearly four months has, I regret to say, impaired my health so considerably, that a change of air became imperatively necessary.

"I have been thus particular in detailing to your Lordship events as they occurred at Boa Vista, because I assure your Lordship that if the authorities of the place could have imagined that the fever on board the 'Eclair' had exhibited a dangerous type before her arrival, they never would have granted the vessel pratique. The report of Sir William Pym and Mr. Arnott says that such was the case; and the information appears to have been derived from the survivors on board the 'Eclair.' The medical men who belonged to that vessel are now numbered with the dead; yet it must always be a cause of regret that they were not more circumstantial in their statements, particularly to the medical officers who were deputed by the authorities to confer with them, as the dreadful loss of life I have here detailed to your Lordship would no doubt have been averted, besides saving to many persons great pecuniary losses, which the panic amongst the islands has caused to a very considerable extent."

This letter, it will be observed, is dated December 22nd. The deaths are therein stated to have amounted at that time to two hundred and fifty. The latest intelligence, in this correspondence, brings us to a letter from Ponta do Sal St. Antonio, dated March 9, 1846, received April 17. From this we learn that the sickness still continued in the villages of the interior of the island, and that the number of deaths then amounted to upwards of *four hundred!* Our space will not allow us to make any further comments on this report in the present number; but we must request our readers to observe that after the crew had *left the ship*, and were stationed on the island, the disease continued to spread and to prove equally fatal—that, only one short week after the departure of the Eclair, a Portuguese soldier, who had been housed with the crew, was seized and died, that the following day another soldier died, that two more were seized, brought into town, and from this time two or three cases occurred daily, all within the immediate neighbourhood of the houses where the first death took place! Those who were inclined to disregard this clear order of causation, and to refer the disease to stagnant water, malaria, &c.—very convenient means of evading a difficulty in a theory—now began to alter their opinion, and finally declared the fever to be of a most contagious nature. If any confirmation of this opinion be required, it will be found in the statement that the fever, almost without exception, proved contagious to those who acted as nurses to the sick!

Now we care not whether a disease of this description be called "bilious remittent fever" or not; but the facts here related are entirely opposed to the premature assertion of Dr. Richardson, that there would be no further risk of infection under the circumstances than in ordinary cases of typhus fever. These facts plainly show that the greatest risk might have been incurred by ad-

mitting this pestilential ship and crew to pratique according to his suggestion. It is, indeed, a matter of regret that while off our coast five persons should have perished on board this vessel; but we must balance against this sad result, the fearful effects of that partial intercourse with the crew which has led to the depopulation of the island of Bona Vista, and its abandonment by those who had strength to remove from it. Medical theories concerning the origin and progress of fevers are very interesting as subjects of discussion, and call forth much ingenuity, either in oral argument or written treatises. So long as they are confined to discussion no harm is done, but when carried into practice, at the possible risk of endangering the lives of thousands, it is but a poor compensation to find, when hundreds are laid in their graves, that the medical theorist retracts his opinion, and acknowledges his mistake! We are no advocates for the maintenance of the Quarantine laws in their present absurd and anomalous condition; but we are still less disposed to join with the commercial party, who either cannot or will not see anything like cause and effect in events like these, which to unbiassed minds cannot fail to bring home the most complete conviction. If any explanation can be given of the diffusion of this "common African fever" throughout the island of Bona Vista, independently of its importation by the Eclair, and its subsequent propagation by human contagion, we think that the common opinion of small-pox or any other disease being contagious, must be at once abandoned. If no other explanation can be given than that which we have suggested, then we must admit that this country has had a very narrow escape from a disease more dangerous than either the plague or cholera.

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## Reviews.

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*Explanations. A Sequel to the Vestiges of the Natural History of Creation.* By the Author of that work. 8vo. pp. 198. London: Churchill. 1845.

Few works excited for a certain period greater interest than that to which the volume before us is a sequel. For some months the scientific world was shaken by the conflict of the "Vestiges" with the "Anti-Vestiges" party; and grave doctors and University professors, with reviewers of all degrees, from the modest weekly to the imposing quarterly, came forward to crush the ingenious sophistry of this anonymous pseudo-philosopher. The geologists stoutly objected to his geology, the chemists to his chemistry, and the astronomers to his astronomy. After a few skirmishes in the successive editions of the Vestiges, the author has thought proper to open an attack upon his reviewers in a more decided form; but we do not feel that we can compliment him upon his dialectics. He evidently loses his temper, and thus exposes the weakness of the cause which he is attempting to defend; *i. e.* the "philosophy" of the Vestiges. In the first place the title of this book is a misnomer: we do not find "explanations," but repetitions; and a *tu quoque* style of argument rather unbecoming the discussion of a philosophical subject.

As to the scientific class they are positively swamped, as the following extract will show:—

"After discussing the whole arguments on both sides in so ample a manner, it may be hardly necessary to advert to the objection arising from the mere fact (!) that nearly all the scientific men are opposed to the theory of the Vestiges. As this objection, however, is one likely to be of some avail with many minds, it ought not to be entirely passed over. If I did not think there were reasons independent of judgment for the scientific class coming so generally to this conclusion, I might feel the more embarrassed in presenting myself in direct opposition to so many possessing talents and information. As the case really stands, the ability of this class to give, at the present time, a true response upon such a subject, appears extremely challengeable. It is no discredit to them, that they are almost

without exception engaged each in his own little department (!) of science, and able to give little or no attention to other parts of that vast field. From year to year, and from age to age, we see them at work, adding no doubt much to the known, and advancing many important interests; but, at the same time, doing little for the establishment of comprehensive views of nature. Experiments, in however narrow a walk, facts of whatever minuteness, make reputations in scientific societies; all beyond is regarded with suspicion and distrust. The consequence is, that philosophy, as it exists amongst us, does nothing to raise its votaries above the common ideas of their time. There can, therefore, be nothing more conclusive against our hypothesis in the disfavour of the scientific class, than in that of any other section of educated men. There is even less; for the position of scientific men with regard to the rest of the public is such, that they are rather eager to repudiate, than to embrace general views, seeing how unpopular these usually are." p. 175.

After this, we should be glad to know what chance has the geologist, the chemist, or the astronomer, of holding up his head with any decency in a department of science which each had absurdly considered to be his own. The motto of *ne sutor ultra crepidam* avails nothing: our indignant author will not even allow the cobbler his last; and, as to science, it is worth nothing, except in so far as it adapts itself to his own views of the creation of the world, and of the gradual development of organic nature!

Now we have no objection to allow full "saliency in investigation;" but the time has surely not yet arrived when men who have acquired what we cannot but denominate a superficial acquaintance with various branches of knowledge, are to build up systems of cosmogony, geology, or chemistry, and to sit in judgment upon their own hypotheses. The author does not mean to assert that he is so profoundly versed in all sciences that he can set at defiance each in his own special department—the astronomer, geologist, and chemist: if he ever entertained this wild notion, there are many of the non-scientific class who, we believe, would have no difficulty in soon proving the contrary from his own writings. Admitting that his opinions have been somewhat severely attacked, we believe that he has brought this attack upon himself, by the very great freedom with which he has dealt with well-ascertained facts. It is no support to his own peculiar views that they are made up of the shreds and patches of opinions which have been or are still maintained by certain philosophers: and yet this we believe to be the best that can be said in their favour.

It would be out of place for us to enter into the analysis of a work purely controversial. There is no greater evil to true philosophy than that which is produced by the discussion of questions which are entirely beyond the limits of human knowledge. Creation is a great fact, and all wise men regard it in this light. Mysterious subjects of this nature admit neither of proof nor of disproof, and as they are utterly beyond the reach of experimental inquiry, it is a vain and profitless task to attempt to fathom them.

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*Grundzüge der Experimentalphysik mit rücksicht auf Chemie und Pharmacie.* Von Dr. H. Buff, Professor an der Universität zu Giessen. Heidelberg, 1843-5. 2 Lief.

*Elements of Experimental Philosophy in relation to Chemistry and Pharmacy.* By Dr. H. Buff, Professor in the University of Giessen, &c. Heidelberg: C. Winter. 1843-5. 2 Parts, 8vo. pp. 288.

This is an excellent little work on the subject to which it refers; *i. e.* Physics in relation to Chemistry and Pharmacy. For making progress in chemistry, it is obviously essential that the student should be well grounded in physics; but many are deterred from the study by finding in works on the subject so much more than a practical chemist really requires. At the suggestion of his colleague, Baron Liebig, Dr. Buff has been induced to prepare this treatise for the use of chemical students; and we think that he has performed his task very satisfactorily. His style is clear and terse, and his explanations are rendered intelligible by wood-engravings. Perhaps it is premature to express an opinion respecting his arrangement of the subject, as a third part is yet required to complete the work; but at present, owing to a want of division into chap-

ters, and the absence of a table of contents, it appears rather confused.

In the two first parts the author treats of the properties of matter; caloric; the moving powers; the properties of liquids, including areometry and specific gravities; capillarity; endosmosis; pneumatics, in relation to the barometer and air-pump; hydraulics; vapours; hygrometry; magnetism, and electricity. By the occasional use of a small type he contrives to introduce a large amount of information into each section. A peculiar and valuable feature of the work is, that a large number of tables connected with chemical and physical calculations are attached to it: as, for example, tables of relative lengths, bulks, and areas, according to different standards, of Europe; of specific gravities; expansion; specific heat; boiling and melting points; areometry: alcohometry, acidometry and alkalimetry, as determined by specific gravity.

Judging from the two parts before us, we have no hesitation in stating that we think Dr. Buff's work will be a useful companion to the student of chemistry. It contains nothing new, but the matter is well selected.

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PRESCRIPTIONS OF A COURT SURGEON IN THE SIXTEENTH CENTURY.

THE following elegant prescriptions appear, among many others of a similar kind, in a work entitled, "The Englishman's Treasure," by that excellent Chyrurgion, Mr. Thomas Vicary, Esquire, Sergeant-Chyrurgion to King Henry the VIII.; to King Edward the VI.; Queene Mary, and Queene Elizabeth, and also Chiefe Chyrurgion to St. Bartholomewes Hospitall.

*An excellent Medicine for the Jaundise.*—Take sixe earth-worms, slit them, and scoure them from their filth and slimy matter, cut them in pieces, or chop them, make pottage of them with water and oatmeale; eate the same for 12 days together, and it will perfectly cure the Jaundise.

*An excellent cure for the Crampe.*—Make a Ring of an oxes horne, or of a cowes, or of a Sea horse tooth, or of the pistle of a Sea horse, and weare it.

*An excellent Medicine for the Falling Sicknesse.*—Take three Nayles made in the Vigile of St. John the Baptist, commonly called Midsomer Eve, drive them into the ground so deepe, that they be not seene in the place where the sicke party fell, naming the parties' name while it is in doing, it will drive away the disease, which Misaldus credibly reporteth.

# Proceedings of Societies.

## ROYAL MEDICAL & CHIRURGICAL SOCIETY.

April 28.

DR. BURROWS IN THE CHAIR.

*On the Capacity of the Lungs, and on the Respiratory Movements, with the View of Establishing a Precise and Easy Method of Detecting Disease by the Spirometer.* BY JOHN HUTCHINSON.

[Presented by DR. CURSHAM.]

AFTER giving an introduction to the subject by a history of respiration, from the earliest period to the present, with an account of what researches have hitherto been instituted upon this inquiry, the author commenced by dividing the different portions of respired air under certain heads, without which the subject of respiration becomes very complicated and difficult of expression. He remarks—"The latitude of movement performed by the walls and floor of the chest, to maintain a constant current of air through the air cells of the lungs, admits of three common degrees of expression:—1. Extreme expansion, or enlargement; 2. Extreme contraction, or diminution; 3. An intermediate or quiescent state.

"These divisions necessarily superinduce a difference in the quantity of air respectively drawn in or thrown out of the lungs." These movements or portions of air he described, for perspicuity, under five heads:—

1. Residual air; 2. Reserve air; 3. Breathing air; 4. Complemental air; 5. Vital capacity.

This division was clearly illustrated by different diagrams, and may be expressed best in the author's own language:—

"It is well known that the lungs are not capable of being emptied by the most violent muscular effort; therefore, at all times, as long as the lungs maintain their natural structure during life or death, a certain quantity of air remains in these organs, which is termed 'residual air,' and over which we have no control.

"'Reserve air.'—The gentle respiratory movement regulating the ordinary breathing, is an intermediate effort between extreme voluntary thoracic contraction and dilatation, and hence it is that a portion of air always remains in the lungs after the gentle expiration, which may be thrown out if required; to it I have applied the name 'reserve air.'

"3. 'Breathing air.'—That portion required to perform the ordinary gentle inspiration and expiration, which we term 'breathing air.'

"4. 'Complemental air.'—That portion which can at will be drawn into the lungs by a violent exertion, beyond the moderate effort of ordinary breathing, which constitutes the deepest possible inspiration, is only occasionally added if required; to this we apply the term 'complemental air.'

"5. Vital capacity in all these three latter divisions combined, being the greatest voluntary expiration, following the deepest inspiration, to which I apply the term 'vital capacity.'

"These divisions differ in their character. The residual air is independent of the will, and always in the chest. The reserve air, to use a simile, is a 'tenant at will.' The breathing air constantly passing out and in the chest. The complemental air, seldom in the chest, and when it is, only so for a brief period. The connexion of these with diagnosis in disease here followed, and the whole subject of the paper, resolved itself under the following heads:—1. The quantity of air expelled from the lungs in connexion with other physical observations on the human frame. 2. The absolute capacity of the thorax, cubic and superficial measurements. 3. The respiratory movements and mobility of the chest. 4. The inspiratory and expiratory muscular power. 5. The elastic power of the ribs, and the voluntary muscular respiratory power. 6. The function of the intercostal muscles. 7. General and practical deductions in reference to detecting disease in man.

Each of these subjects was fully treated, and much valuable information, both for the physician and the physiologist, will be there found, but which we must here pass over, and simply add, that Mr. Hutchinson has examined upwards of 2000 cases with reference to respiration, and that the quantity of air exhaled from the lungs is affected by four circumstances,—height, weight, age, and disease. By height, in the arithmetic progressions of eight cubic inches for every inch of height. By weight, nearly in the ratio of one cubic inch for every pound to eleven stone, and then decrease nearly in the same rotation up to fourteen stone. By age (from thirty-five to sixty-five), a decrease of rather more than one cubic inch per year.

Under the second head, much curious and new matter appeared in relation to the actual capacity of the thorax and the vital capacity, and the relative size of the chest to the body. Under the third head, the respiratory movements of the sexes, and relative movements in health and disease, as measured by the spirometer. Under the fourth head, the muscular power in relation to health. Under the fifth head, entirely new considerations of the combined forces of elastic or involuntary power, and muscular or voluntary respiratory power. Under the sixth head, the intercostal muscles being true expiratory muscles. Lastly, general and practical deductions.

Here Mr. Hutchinson gave many interesting cases of the spirometer detecting phthisis pulmonalis, before the ordinary means now in vogue, and many other subjects relative to the application of his instrument to disease generally in the human frame, which he demonstrates as very broadly marked by twenty-five or thirty per cent. Mr. Hutchinson's spirometer was exhibited before the Society, and its methods of application explained.

Dr. Taylor considered the Society much indebted to Mr. Hutchinson for the laborious investigations which he had undertaken, and now submitted to them with such ample illustrations. From the fact that an abstract only of this paper could be read, and from the novelty and the variety of the views submitted to them, it could not be expected that the members could appreciate at once the true value of the observations of the author. The importance of the results arrived at could not be doubted, if they should turn out to be true; but the results of an investigation so entirely original ought to be received with due caution, until they have been confirmed by other observers. Some very curious results arrived at by Mr. Hutchinson, might be adduced, to show the great importance, in a science like medicine, of our being guided by observation alone; for although they are not inconsistent with any known principles, they are very different from the conclusions at which we should have arrived by *à priori* speculation; such, for instance, is the law that the quantity of air which can be expired bears but little relation to the girth of the thorax, but is influenced mainly by the *height* of the individual.

Perhaps the most important fact discovered is this—viz., that if the height of the individual be known, the number of cubic inches of air which he is able to expire in the healthy state can be calculated with tolerable accuracy. The principle of this calculation is founded upon a great number of observations, and we have just had the fairest and most convincing proof of its correctness. The gentleman who has just now offered himself to be experimented upon, has actually expired within a cubic inch of the quantity of air calculated beforehand.

The application of this principle in the diagnosis of disease is most important. Mr. Hutchinson has found that persons who are the subjects of phthisis expire a quantity of air very much less than they ought to do if healthy. In one interesting case (that of Freeman,) the quantity of air expired when he was in health was actually measured, and the experiment being repeated some time

after, this man was found to expire ninety cubic inches less than on the first occasion; at this time no disease in the lungs had been detected by two experienced auscultators; the man, however, was not in good health, and some months afterwards he died of phthisis, as proved by post-mortem inspection. I myself examined a number of consumptive patients by Mr. Hutchinson's apparatus; I have found them to expire much less air than, by calculation, they ought to do if in health. Another singular and very important result is this, that the quantity of air which a man can expire is not necessarily proportioned to the absolute size of his lungs or the number of cubic inches of space in his chest. We have seen, in the casts exhibited, that the lungs of one man who expired a large quantity of air were actually much smaller than the lungs of another man who expired a far less quantity. Mr. Hutchinson believes that the quantity expired depends less upon the size of the chest or lungs than upon the mobility of the thoracic walls. The diminished quantity of air expired in phthisis seems to result less from the space occupied by the tubercular deposit than from the restriction which is in some way imposed upon the thoracic movements. The bulk of the tubercular deposit in one case was only equal to one cubic inch, whilst the diminution in the quantity of expired air was forty-seven cubic inches. Hence, by this apparatus, it may turn out to be possible for us to distinguish phthisis at an earlier period than by any other means; and this has been actually proved in one of the instances adduced.

The same principle, however, complicates very much the application of Mr. Hutchinson's results in the differential diagnosis of disease. Many diseases, without the chest as well as within it, may limit the respiratory movements, and so lessen the quantity of air expired. So that, for the present, a great diminution of the expired air can only be considered to indicate the existence of disease somewhere: the seat and nature of this disease must be determined by other means, unless further investigation shall render the indications of the spirometer more precise than they are at present. As much has been accomplished in this direction as we could look for from one individual, and in a limited time. Mr. Hutchinson has done enough to make it incumbent upon physicians generally to prosecute the investigation, so as to lead to the confirmation or invalidation of his views, as well as to their extension and limitation in particular cases. In the hospital to which I am attached, one of the spirometers has been purchased, and a certain number of observations have been made, which, as far as they go, quite confirm those of Mr. Hutchinson.

A great advantage in the use of the spirometer in disease of the chest is this, that comparatively little education is required for it. The practice of auscultation requires a long education and constant application; the spirometer may be used, for the purposes to which it is applicable, with very little previous study. Hence the importance of the instrument, as pointed out by the author, to army and navy surgeons, to insurance companies, and in private practice generally.

After the paper had been read, Mr. Hutchinson illustrated the method of making an examination. Taking himself as an example, he observed, that though his chest was small, (thirty-three inches in circumference,) yet, according to his mere height, his vital capacity was 260 cubic inches; noting, at the same time, that the person being examined should hold himself as erect as possible, the least inclination of the head causing a difference in the quantity of air expired. A Fellow of the Society having complied with the request to come forward and submit himself to experiment, his height was found to be five feet five inches, and accordingly the quantity of air he could expel should, by the tables, be 206 cubic inches. The gentleman then breathed into the spirometer, and actually produced 205 cubic inches, which, making allowance for temperature, made it 206 cubic inches. This was so satisfactory, as to leave no doubt on the mind that these tables must have been calculated with care, and upon an extensive number of cases. Many questions were put to the author upon the different subjects of which the voluminous paper treated.

Dr. Chowne requested to know whether any explanation could be given for the following curious phenomenon, which was strikingly apposite, touching the relation of the chest to the respiratory power,—Why the mere height bore so strict a relation to vital capacity, and not to the size of the chest.

Mr. Hutchinson, in reply, observed, that he had found this hitherto inexplicable. It was a fact, that the taller a man, the more air he could expel from his lungs; and he considered that this quantity was directly dependent upon the extent of thoracic and abdominal mobility, and not upon the actual capacity of the cavity of the thorax. He referred to a series of casts taken from the chest —the heart and lungs having been first removed, and their space filled up with plaster of Paris. He exhibited one cast, taken under most favourable circumstances; the individual while living, and apparently in health, he had measured; his vital capacity, making correction for temperature, is 251 cubic inches; while the actual cubic space in his chest for the organs of inspiration was only 248 cubic inches, being three inches less than the actual quantity breathed; therefore this marked a respiratory mobility exceeding the actual capacity of the thorax. Therefore, while the

spirometer measures the vital capacity, it becomes at the same time a measurer of the mobility of the parts concerned in the breathing act. Now to measure the mobility is to determine the respiratory movement, which he illustrated by drawings, as extending over the whole trunk of the body down to below the knees; therefore whatever interfered in these parts to prevent the range of movement, would, at the same time, be indicated upon the sprirometer, and collateral observation would determine more minutely the locality affected. He could not here omit mentioning another circumstance which militated against an opinion prevalent at this day. It was commonly believed that adhesion of the pleura prevented the free movements of the chest; but this he believed was not the case, for he had found that in the instance just mentioned, where the mobility exceeded the actual thoracic cavity, there was no part of the pleura pulmonalis but was firmly adherent to the pleura costalis. So much was this the case, that the heart and lungs could not be weighed separately, their structure being totally destroyed in removing them. Here was a mobility exceeding by three cubic inches the actual space allotted for the heart and lungs, with the parietes and floor of the chest firmly adhering to the lungs. He believed that the latent movement of the ribs was so little, or the latent movement between the contents of the chest and its boundaries so limited, that no adhesion interfered with the respiratory actions. This was worthy of attention, the contrary opinion appearing to prevail at present.

Mr. Hutchinson pointed to a cast of a chest measuring 457 cubic inches, while 202 cubic inches of air only could be exhaled; or not one half of the space allotted for the organs. This man was corpulent, and only 5 feet 8 inches in height; therefore his mobility was mechanically impeded. Why this mobility increased with height, he felt as much at a loss to account for as he did the first day he commenced the investigation. But he was confident it was so, as upwards of 2000 cases went to prove it.

Mr. Hutchinson then pointed to a curiously interesting table, where all the heights, increasing in the arithmetical rotation of inch by inch, between five and six feet, were drawn by scale, and upon these the relative depth and breadth of the chest, so that the whole proportion of the frame was exhibited. The thoracic cavity was seen not to increase in any visible relation with the increasing height; the taller men here exhibiting smaller chests in all dimensions than the shorter. Moreover, it was remarkable to observe how shallow the chest was, the average depth, from the apex of the lungs to the diaphragm, being only from seven and a half to eight and a half inches; and that the shortest men, (five feet four,) who could blow least, had the deepest chests of all the other heights. The absolute length of the back also appeared to have nothing to do with the question, for he had taken the sitting height and the standing height, which averaged three feet, whatever was the standing height; and that men whose standing height was many inches shorter than others, who sit taller, yet blow less out of the lungs. Here Mr. Hutchinson said he must quit this part of the subject: "for years have I studied to determine this question, but in vain."

Mr. Hutchinson was asked upon what grounds he imagined that the chest in deep expiration did not enlarge by the diaphragm descending? this being the present and general opinion of physiologists. He replied, that he had invariably found, in health, that when a man stood and made a deep inspiration, the movements were as described by the diagram already referred to—viz., that the chest, in this violent effort, enlarged its dimensions almost entirely by the ribs; the sternum advanced, the ribs and shoulders were elevated, the abdomen receded, compressing the abdominal viscera; the lateral enlargement of the chest was very small, chiefly increasing in the antero-posterior diameter. Now, he considered himself at a loss to conceive how the diaphragm could descend and the abdominal muscles recede; the point of the recti muscles, in deep inspiration, would be found as posterior to the point of these muscles in ordinary breathing; therefore the diaphragm must be pushed up, and it was perfectly possible to conceive the diaphragm to enlarge its circumference without descending; for the convolution of this muscle was such that its area was nearly quadruple that of the sectional area of the chest. The ordinary breathing was entirely abdominal or diahragmatic in men, but the contrary in deep breathing. The chest appeared to have two ways of enlarging,—one by its diaphragm, and the other by its ribs; but these did not act in concert, either by one or the other separately. This observation must not be made in the recumbent position, for then the back of the body becomes fixed, and thus medical men might be led into an error in examining the breathing movement of a patient in bed, when the very position altered their motions. From a knowledge of this, he was inclined to believe that this fixing of the back in the recumbent position caused patients labouring under dyspnœa to prefer the erect position for breathing.

The breathing in women differed from men only in one respect; their ordinary breathing being chiefly costal, and not abdominal. Whether this was to allow for gestation or not, he could not say; he thought there was some doubt of its being caused by the peculiarities of their costume.

Mr. Hutchinson was then asked by Mr. Ayston whether there was any relation between the respiratory power and the respiratory quantity in vital capacity? To which he replied, there was a certain indirect relation. It was seen that the vital capacity increased with mere height; but by another instrument exhibited before the Society, that the inspiratory power was greatest at the height of five feet eight inches, and decreases in regular progression as the height increases; and that the men of five feet eight inches could elevate by the true inspiratory muscles a column of three inches of mercury, equal, in some cases, depending upon the size of the chest, to many hundreds of pounds' resistance to their muscles, whereas the six-feet men could only do two inches and a half, and that the expiratory power was one-third higher, but not from the muscular power, but the elastic power, of the ribs being here introduced, which is not so in the inspiratory act. This inspiratory power, he considered, indicated the *vis vitæ* of the individual more than the expiratory power, which was affected by vocation. An elaborate series of calculations were contained in the paper upon the elastic power, and the muscular contractile power alternating in every inspiration and expiration. But this question cannot, in justice to the author, be abridged; therefore the paper must be consulted, as this is a question for the closet. This elastic power has hitherto been very slightly treated by physiologists, and the circumstances under which Mr. Hutchinson determined his views are so rare and conclusive, and we may say impossible of being obtained again, that they demand the full inspection and consideration of the physiologist. But this much may be added, that Mr. Hutchinson considers the inspiratory act as demanding a muscular power to resist an elastic power of many hundreds of pounds; that is, a direct resistance to vital energy, with no counterbalance power.

Mr. Hutchinson was asked whether he had examined any men of remarkably small stature, whose height, as they sit, is not so remarkable as their standing height?

He replied, that he had, in the course of his observations, sought out the giant and the dwarf. He then handed a spirited sketch of a human being, whose height was under thirty inches — Don Francisco, aged forty-two. This little gentleman had a vital capacity of fifty-six cubic inches. He then exhibited the shade of the hand of Mr. Randall, seven feet high, the span of whose hand was nearly thirteen inches, and the length of his foot thirteen inches and a half. He had a vital capacity of 464 cubic inches, at 60°, which, if calculated at 98°, the temperature of the body, must bring it nearly to 500 cubic inches!

*Cases of Melanosis, with Observations.* By Holmes Coote, Fellow of the Royal College of Surgeons, Surgeon to the North London Ophthalmic Institution.

The author, after relating several cases of melanosis, gives a brief historical notice of the works in which a description of the disease is contained. He then observes that "melanosis in the human subject occurs as a primary disease only in the eye and in the skin. In the horse it is seen chiefly about the anus, parotid gland, or spleen. Mr. Spooner, of the Royal Veterinary College, has never met with it but in horses of a light colour; most of them were becoming white from age." After some remarks upon the necessity of not confounding true melanotic tumors with other dark-coloured swellings, the author gives a brief account of the chemical composition and microscopical anatomy of true melanosis. He argues from the latter, that melanotic tumors, though sparingly if at all supplied with blood vessels, are not unorganised; the cells which compose them having their periods of growth, maturity, and decline. He denies the correctness of regarding melanosis as a variety of cancer. He enumerates many points in which the two diseases essentially differ. Melanosis of the eye commences between the choroid and the retina; the tumor, pushing the contents of the globe on one side, makes its way externally by irregular periods of increase. Melanotic tumors of the skin are either cutaneous or subcutaneous.

The development of internal disease, to which the fatal termination of the case is owing, is marked by general lassitude, and undefined pains over the trunk and limbs. The patient is exhausted by sickness and diarrhœa, but in most cases retains his mental faculties to the last.

Secondary melanotic accumulations are found in all structures except the cornea, synovial membranes, tendons, and aponeurotic expansions. The liver often attains an enormous magnitude: in one case examined by Mr. Lawrence it weighed seventeen pounds and a half. From a table of fifteen accurately-watched cases, it would appear that the average duration of life after the removal of the primary disease by operation does not amount to more than thirteen months. The author concludes by endeavouring to show that the operation, though justifiable for the purpose of relieving a patient from a source of suffering, ought not to be held out as a means of eradicating the disease, or of materially prolonging life. He rests these conclusions very much upon examinations made by himself; having found by the aid of the microscope, that in one case melanotic matter existed in the blood-vessels, in apparently healthy muscles,

nerves, and other tissues immediately surrounding the primary tumor.

Mr. White Cooper referred to one of the cases recorded in the paper before the Society, and said, that subsequent to the operation that patient was the subject of extreme dyspepsia. The eye itself was well, but the patient was much attenuated, and the subject of distressing pyrosis. He feared that she laboured under disease of some internal organ, probably of the stomach, similar to that removed from the eye.

The President observed, that in cases alluded to, the melanotic disease was situated externally to the eye. This he believed was a very unfrequent seat of the affection, and asked if any chemical examination had been made of the contents of the tumor.

Mr. Cooper had not examined the tumor chemically; but under the microscope it exhibited all the characters of melanosis. It commenced from a small red point; it was supplied with vessels from the canthus, and had progressed with great rapidity. Mr. Fergusson had seen the case previous to the operation, and had recommended the removal of the tumor, as affording the only chance of saving the patient. It was accordingly removed; the operation was attended with much hæmorrhage, but the wound healed rapidly, and in a fortnight, to all appearance, was well. A considerable portion of the conjunctiva covering the cornea was removed in the operation; but there was no consequent opacity.

Mr. Fergusson had a full recollection of the case, and had a firm impression that the tumor was melanotic. He certainly concurred in opinion as to the necessity of an operation; but he was by no means sanguine as to the result of that proceeding. It was gratifying for him to hear of its success, which was contrary to his experience generally in these cases; for he had always found, that when this disease was situated in the vicinity of the eyeball, it invariably returned, and, at a later or earlier period, destroyed the patient. The first case detailed in the paper was peculiar in regard to the appearances observed in the portion of optic nerve removed, when it was placed under the microscope, as it exhibited black spots similar to those observed in other parts of the tumor. He feared that a similar condition of the nerve left behind would obtain. Had Mr. Coote seen this patient since the paper had been written? Had he also any peculiar views respecting the term "malignant" as applied to these tumors? That term, in his (Mr. Fergusson's) opinion, was strictly applicable to this disease. The result of these cases in general bore out the correctness of this opinion; for the average duration of life, after the operation of removal, as proved by the paper, was but thirteen months, and the disease was not a much longer period in proving fatal, even after its first appearance. He therefore looked upon this as a malignant disease.

Mr. Coote had not seen the subject of the first case detailed in his paper since the operation. He had, however, heard that, for some months subsequently to that proceeding, there was a dark, sanious discharge from the orbit; the veins of the palpebræ were enlarged, and the integuments stained of a dark colour. He had little doubt that if the blood from these veins had been examined, it would have been found to be melanotic. He had divided the optic nerve with a clean knife; the spots alluded to by Mr. Fergusson had been clearly detectable under the microscope, and he feared, from this fact, that a satisfactory termination of the case could not be expected. In addition to the signs of the return of the disease in the orbit there was also enlargement of the liver. Regarding the term malignant, he was inclined to give it a much more extended meaning than was commonly done. Some were disposed to restrict the term to carcinomatous disease. Now melanosis was not at all allied to cancer; its origin, progress, seat, and termination, were essentially different. He was disposed to include, besides melanosis and cancer, many other formidable complaints under the term malignant.

Dr. Theophilus Thompson believed, with the last speaker, that cancer and melanosis were of a different nature. In support of this opinion, he related the case of a lady, fifty years of age, who until twelve months previous to death, usually enjoyed robust health. At that period she suffered from debility, without pain or local indisposition. The abdomen was slightly distended, but her appetite was good, the bowels regular, and the urine normal; her intellect was unaffected. She rapidly emaciated, and her countenance presented the characteristic appearance of malignant disease, the two last circumstances forming the only diagnostic marks of the true nature of her complaint. Malignant disease was suspected to be situated in the stomach, duodenum, or liver. Two months before death a dark inky spot presented itself upon the gums, and two teeth became loosened. The debility gradually increased, but the swelling of the abdomen subsided before death. The intellects were clear to the last. On examination after death, the peritonæum exhibited the appearance of having been painted over with black paint, resembling very much the pigmentum nigrum of the eye. The small, shrivelled omentum presented the same appearances; the black matter could be readily scraped off, leaving

the peritonæum of its natural appearance underneath. This layer was not thick, except over the cæcum. There was a patch of the same kind in the mucous membrane of the duodenum. All the other organs were healthy. Death was evidently the result of this disease. There was no tubercular or cancerous matter. He alluded to this case as a striking illustration of melanosis, which, he thought, was undoubtedly malignant. It also proved that melanosis did not, as the author of the paper believed, always primarily affect the skin or the eye.

Mr. Lloyd related a case of melanosis which affected almost every organ of the body without showing itself externally. The patient had suffered from obstruction of the rectum, attended by discharges of blood; and to this were soon superadded profuse discharges of blood from the uterus: this organ, on examination, was found to be ulcerated, and affected with excrescences. As the disease was considered to be malignant, an unfavourable prognosis was given. Evidence of the spread of the disease to the abdomen and lungs soon presented itself; there was great difficulty of swallowing, cough, and distressing dyspnœa, and expectoration of a dark bloody matter. Hectic supervened, and the patient died exhausted. On examination after death, melanosis was found to be present in the rectum, uterus, lungs, liver, and intestines, and also on their mucous membrane. The œsophagus was contracted, as though affected with scirrhus, but no melanosis was found there. So abundant was the melanotic matter in the affected parts, that when these were put into vessels containing other preparations, the latter were spoilt by the contact. With reference to the duration of life after the removal of melanotic tumors, he related a case in which, eighteen months since, he had removed a tumor of this kind situated on the lower eyelid, and impinging somewhat upon the eyeball. After the operation, the chloride of zinc was freely used. The tumor presented all the characters of true melanosis; but the case was entirely successful, the patient getting quite well, and continuing so.

Mr. C. Hawkins defined malignant disease to be that which, whether interfered with or not by operation, exhibited itself in other organs, and proved rapidly fatal. He placed true melanosis at the head of all malignant diseases. It generally proved rapidly fatal after removal. He had seen all parts of the body affected with this disease. The question was not whether the disease were melanosis, carcinoma, or encephaloid, but whether removal by the knife would give the patient a fair chance of surviving. In some semi-malignant cases removal might perhaps prevent a relapse of the disease. This was more particularly the case in scirrhus of the skin.

Mr. Arnott eulogized the paper as giving evidence of an anxiety on the part of the author to draw a more specific difference than at present existed between malignant and other diseases. It was difficult to determine what diseases really were malignant; but he thought the definition of malignant disease, as given by Mr. Hawkins, was correct, and applicable to melanosis. Melanosis, however, was altogether different from cancer. He believed that the author was in error in stating that melanosis, as a primary disease, invariably occurred in the skin or eye. He thought there was more chance of relapse after operation for melanosis of the eye or skin, than from scirrhus or encephaloid disease. Had the author of the paper ever seen melanosis of the eye or skin prove fatal without involving any internal organ, as was occasionally the case in cancer? In the first case related in the paper, the disease clearly existed in the remains of the optic nerve, yet up to this time had not returned in that part. It was quite different in cases of cancer of the eye, in which, after operation, it exhibited itself always in the orbit. He related a case in which melanosis affected the skin over the lumbar region; it ulcerated. He recommended removal by the knife, which was resorted to, and the parts appeared to heal kindly. Fifteen months afterwards, however, the disease returned, and the woman's entire body resembled that of a mulatto. Every part of it, after death, was found affected with melanosis.

Mr. Perry inquired whether Mr. Coote had any evidence of the disease being hereditary. He asked the question, because he was acquainted with a family, numbering four, whose mother had, twenty years since, died of melanosis, and her children were in good health. He had known similar instances in relation to horses.

Mr. Coote had no record of a case proving fatal simply from its primary effects on the skin or eye, or without the involvement of some internal organ. With regard to the cases of Messrs. Lloyd and Thompson, which were in opposition to his (Mr. Coote's) opinions, that melanosis occurred as a primary disease only in the skin or eye, it must he recollected, that in these cases the diseases affected the mucous membrane, the changes occurring in which we were not yet fully acquainted with, although they were supposed to be similar to those occurring in the skin. He had no proof of the disease being hereditary, and it was too rare to expect much evidence on this point. Mr. Arnott had alluded to the first case in the paper, in which the disease had been re-

moved, and had afterwards presented itself in the viscera, the orbit remaining healthy. Such cases had been observed in the practice of veterinary surgeons.

Mr. LLOYD referred to a case in St. Bartholomew's Hospital, which had been regarded as an instance of carcinoma of the breast, until the true character of the disease, which was melanotic, presented itself on the skin.

Dr. P. M. STEWART corrected Mr. Coote's statement, that in the cases related by Dr. Thompson, the disease was situated in the mucous membrane; for, on the contrary, it was the serous membrane that was affected, and in Mr. Lloyd's patient the cellular tissue between the coats of the intestines was the seat of the tumors.

*Case of Rupture of the Heart from Fatty Degeneration of that Organ.* By R. H. MEADE, F.R.C.S., of Bradford, Yorkshire.

The subject of this case was an old gentleman, aged eighty-eight, very strong and active, and who had walked to church (a distance of half a mile) and back again, on the morning of the day he died. He went to bed, feeling as well as usual; but on the servant taking leave of him, she noticed an unusual appearance in his countenance, and heard him gasp once as if for breath. She immediately called for help, but he never moved or breathed again.

*Examination post-mortem.*—The lungs were quite healthy; the pericardium covered with much fat, and when opened was found distended with blood, separated into serum and clot, to the amount of a pound. This was found to proceed from an irregular jagged opening at the lower and back part of the left ventricle, near the apex of the organ. The muscular texture of the heart around this was so soft and altered in structure that it would not bear the pressure of the finger. It was of a dirty-yellow colour, and at the first view looked like softened tuberculous matter; but on closer inspection was found to consist of a fatty substance. The lower part of the ventricle, in which the rent had taken place, bulged out so as to form a sort of pouch. The heart presented no other important alterations; but it was generally loaded with fat, and the muscular texture was pale and flabby.

The coats of the aorta, as well as the mitral and aortic valves, were partly ossified, but not to a degree to interfere materially with their action. An interesting question, the author observes, in connection with this case, is—how long the disease had existed before the rupture of the heart occurred, and whether it could have been long present without giving rise to symptoms? He states he was in attendance on the patient two months before his death, for some weeks, when he had cough, and complained of weakness, with constant noise in his head and ears. The pulse was full, and had a jerking feel; but he did not detect anything unnatural in the sounds or impulse of the heart.

*Hydatid Cyst, either originating in or pressing upon, the Prostate Gland.* By GEORGE LOWDELL, late House Surgeon to the Sussex County Hospital.

John ——, aged sixty-four, was admitted into hospital, July 1844. He had experienced difficulty in passing water for three or four years. This difficulty had lately amounted to almost complete retention. The bladder was extremely full, and the patient in severe pain. Several unsuccessful attempts had been made to pass the catheter. The same result attended the first trial after he was admitted. The instrument passed with great facility to the prostatic portion of the urethra, and from thence its point diverged into numerous false passages. On examination by the rectum, a large obscurely elastic tumor, in the situation of the prostate gland, was discovered pressing on the gut, and nearly filling the pelvis. He was ordered a warm bath, which relieved his pain, and enabled him to pass a small quantity of urine. Still his bladder continued very much distended. On a second attempt, a small catheter was passed into the bladder, and three pints of alkaline urine were drawn off. On examination of the abdomen two small tumors were left in the direction of the arch of the colon. The patient remained in a state of debility, and died a few days after his admission.

On examination of the body, the peritoneum, in the neighbourhood of the bladder, was found dark, black, and softened. The cellular tissue about its neck, and covering the psoas and iliacus muscles, was boggy and soft. The bladder was much thickened, and in the situation of the prostate was a tumor larger than a fœtal head, which when cut open proved to be an hydatid cyst full of hydatids compressed together; the true substance of the prostate being lost in the thickened cyst. The urethra was healthy, but the prostatic portion had been so pressed upon by the tumor, that, in attempting to pass the catheter, numerous false passages had been made in every direction. Between the layers of omentum, and in close proximity to the arch of the colon, were two tumors containing hydatids within a thickened cyst.

Mr. CURLING recollected a case in almost every respect similar to the one before the Society, in which the patient died from the bladder being pressed upon by a large collection of hydatid cysts.

Mr. LLOYD said that there was one im-

portant point in this interesting case, with reference to treatment, which deserved comment. He thought that no surgeon was justified in exercising a force sufficient to make a false passage in any case in which obstruction existed to the passage of a catheter. In this case it was truly lamentable to hear how many false passages existed. The danger attending the formation of a false passage was very great. He had seen cases in which the surgeon, having failed in his attempts to pass the catheter, had thrust it through the urethra, and the consequence had been a most destructive inflammation and suppuration of the surrounding cellular tissue. He could not help thinking, that in a case like the present, puncture of the bladder above the pubes would have been a more advisable proceeding than the one resorted to.

Mr. Fergusson said that the question mooted by Mr. Lloyd, though a most important one, was but a mere echo of the common principles of surgery, as laid down in elementary works. No one, he thought, could dispute, that if a surgeon failed to pass a catheter by gentle means, he could not be justified in using force sufficient to make a false passage, unless, indeed, he had previously determined to force his way into the bladder, by making an opening by the instrument about the neck of that viscus.

Mr. Paget was convinced, from a careful examination of the preparation from this case, that none of the many false passages which existed in it were made by the surgeons of the Brighton Hospital. It was clear, when the attempts to relieve the bladder were made by Mr. Lawrence, the very dexterous surgeon of that institution, that the instrument had passed along one of these false passages, which passed directly up in front of the bladder. The case he (Mr. Paget) regarded as successful, so far as it went: the bladder had been relieved. He considered that the mischief already existing would have been much augmented by puncturing the bladder above the pubes.

Mr. Lloyd had applied his observation more to the general question of treatment in these cases than to the individual instance before them. He could not believe, nor would any pupil of the late Mr. Abernethy, that puncturing the bladder as he (Mr. Lloyd) had recommended, would have increased the danger of the case. He had never seen mischief of any kind result from the proceeding, though he had often adopted it himself, and seen it adopted by others.

Mr. Prescot Hewett, in support of the plan of treatment pursued, referred to the practice recommended by Sir B. Brodie, of thrusting the instrument through the middle lobe of the prostate.

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## Medical Trials and Inquests.

*Death from the Cold Water Treatment—Verdict of Manslaughter against a Hydropathic practitioner—Indecent cross-examination of medical witnesses.*

On Tuesday last, an investigation, adjourned from Friday, was concluded before Mr. W. Payne, the City coroner, at the King's Head, Eastcheap, concerning the death of Mr. Richard Dresser, an accountant, aged 45, who was alleged to have died from the effects of improper treatment received at the hydropathic establishment of Dr. Ellis, Sudbroke-park, near Petersham.

The jury-room was crowded by the professors of the hydropathic system, amongst whom were observed Dr. Schnitsh, the celebrated German professor of hydropathy, Dr. Curie, &c. Dr. Ellis, who was bound over by the coroner in the sum of £100 to appear, was also in attendance, supported by Mr. Prendergast, the barrister, and Mr. Hance, solicitor. Mr. Jones, of Bucklersbury, attended on behalf of the friends of the deceased. The evidence taken prior to the adjournment went to show that the deceased had for the last three weeks been subject, as he considered, to rheumatism and sciatica. He was very ill, and expressed himself much in favour of the hydropathic system of medical treatment, and in consequence his wife was induced to write to Dr. Ellis, who keeps an hydropathic establishment at Sudbroke Park, Petersham, Surrey. The deceased went to Dr. Ellis's establishment on Friday week last, and was there subjected to the water system of *treatment*, under which he died on the following Tuesday.

The following were the principal witnesses:—

Mr. W. D. Dresser examined:—The last time I saw deceased was on the 28th of May, when he complained of pain in the groin. He considered it was rheumatism. On Tuesday morning last I received intimation that Mr. Dresser was dead, and accompanied Mrs. Dresser, with Mr. G. Arnold, to Dr. Ellis's establishment, where he had died. When I saw deceased's body, it was lying on a bed in room No. 4. There was a great change in his face, and he was nearly black about the neck. He was a dark man when in health, but his face when dead was much more so. The body appeared to be much swollen, and froth was issuing from his nostrils, covering a large portion of his face. We had seen Dr. Ellis previously to examining the corpse, and on asking him the cause of death he placed this paper in my hands, saying it contained the diagnosis.

The witness here handed the paper to the coroner, who read it as follows :—

"Mr. Richard Draper (Dresser ?) came here on Friday last, to seek relief from what he termed rheumatism in the hip (properly *sciatica*), giving no other particulars. The case was thought admissible, but it soon appeared that he was suffering from hepatitis of the sub-acute character, giving rise to suppuration, occasioning exudations of lymph, and a rapid extension of the disease to the adjoining viscera. The symptoms were tympanitis, total inaction of the bowels, and sluggishness of the urinary organs, very severe pain in the left leg, from the groin along the thigh to the ankle, coldness of the extremities, and loss of power. He was treated as is usual to subdue the symptoms; the pain was soon suspended; the bowels, though stubborn, acted freely after the usual means had been tried, and continued to do so. The appetite allowed of his taking a little farinaceous nourishment, but disease proceeded insidiously ; sub-acute inflammation advanced gradually, though there was no sign of active progress; the organ became generally the seat of suppuration, the pulse became quicker and softer, with much perspiration; the countenanee became pale and sallow. There was tumefaction of the liver, with a doughy œdematous or boggy feel of the hepatic region generally. The enlargement or bulging was very great about the false ribs; oppression with dyspnœa, or short breathing, immediately preceded his decease, which took place at 20 minutes before 8 o'clock this morning, June 2d, without either a sigh or struggle. In three or four hours after his decease the fluids filled the chest and throat, and oozed copiously out of the ears, nose, and mouth.

"J. E."

The witness added—When I asked the doctor the cause of death, he said it was not rheumatism, but hepatitis, and that if he had known deceased was labouring under that complaint he would not have admitted him.

Mrs. Maria Dresser, the widow of deceased, was next examined, and appeared much affected.—She said, I saw my husband at Dr. Ellis's establishment on Sunday afternoon, the 31st of May. I understood he had been placed in a warm bath, and he said his pain had left him. He was sitting up in bed *covered with wet wrappers and blankets*. I asked what food they gave him, and he replied that they kept him very humble, not what he had been accustomed to. I remarked upon his strange position in bed, and he replied that his legs were useless. I felt his legs, and *they were as cold as marble*. I took tea in his apartment, and wished him to take some, but he refused, saying that it was not allowed. When Dr. Ellis came home in the evening, I told him I thought my husband was very bad, as he was so cold. Dr. Ellis then took a large cloth, placed it in a washhand basin containing water, and put it on my husband's stomach, saying he was afraid of inflammation, which he wished to stop, because he could not allow so valuable a life as Mr. Dresser's to be lost. Deceased was shortly after placed in a bath, and I saw him in half an hour afterwards, when there was so remarkable a change in his appearance that I thought he had been struck with death. One of the bathmen told me his perspiration had stopped, and that it was in favour of the patient. Dr. Ellis admitted that my husband had altered after the bath, when I spoke to him about him ; and he asked me if I wished for further advice for him, or to have him removed. I then left my husband, the doctor promising to send me a letter in the morning by 11 o'clock, telling me how he was. By 9 o'clock, however, on the following morning, a gentleman called and informed me of my husband's death. I went to Petersham, and after a great deal of persuasion to the contrary, was allowed to see the corpse. By the Coroner.—I cannot say whether the bandages I saw applied were dipped in warm or cold water. The baths were constituted of three pails of cold water, with a small portion of hot, taken from a small can the bathman held in his hand.

Mr. James Hicks examined.—I am a surgeon, and am in partnership with Mr. Waterworth, of the Old Kent Road. I assisted in the *post-mortem* examination of the body. Externally it presented the appearance of a man who had died from suffocation, the face being bloated and of a livid colour, with bloody froth and serum issuing from the mouth and nose; the whole of the posterior part of the trunk bore evidence of extreme congestion. In the chest I found the lungs and heart enormously congested, the latter being large and flabby, but otherwise healthy. In the abdomen the bowels were greatly distended with flatus, but otherwise empty; the liver was healthy but congested, and bore no evidence of previous disease. By the Coroner.—I consider the immediate cause of death to have been extreme congestion of the internal organs,—the lungs and heart, which existed to such an extent as to produce all the effects of suffocation in not allowing air to get into the lungs. This congestion was likely to be produced by cold externally, whether by cold air or by cold fluids to the body. Cold applications have the effect of repelling the blood from the surface of the body to the internal organs, from which in weak constitutions the system is unable to relieve

itself. I have read the paper written by Dr. Ellis as to the cause of death. It does not contain at all the true cause of deceased's death. Quite the contrary. There was not the least appearance of disease in the liver. There had evidently been congestion of the lungs when the wet clothes were applied, and if the water were cold it would produce death. In such cases there should be applications of hot flannels and stimulants, so as to restore circulation. There was no suppuration of any kind.

At this stage of the proceedings the adjournment took place.

On the re-assembling of the jury on Tuesday, John Maynard was first called. He said—I am bath attendant at Dr. Ellis's establishment, near Petersham. It is called the Hydropathic Establishment. I recollect seeing the deceased, Mr. Dresser, from the Friday evening till the Tuesday morning. When he came on the Friday evening I saw him, and he appeared very ill. I saw him in bed in No. 2 room. I saw nothing done for him before he was put to bed. On Saturday morning he had a bath at a temperature of 65°. I keep minutes of these things in my memory. I meant the temperature was 85°. He was in the bath for 90 seconds. He was attended by Dr. Ellis during the day, but I saw nothing more done for him that day. I carried water into the room, both hot and cold, during the day, two or three times, but I don't know what was done with it by Dr. Ellis to Mr. Dresser. There was about half a gallon of cold and half a gallon of hot water each night. On Sunday morning I prepared deceased a bath as before, and I also carried in hot and cold water. When I carried the water in, Mr. Dresser was lying on the bed in blankets. I do not know the object of lying in blankets. After Mr. Dresser had the bath on Sunday morning, he went out and walked in the pleasure-ground with me for about five minutes, and afterwards with Dr. Ellis. He then went to breakfast with other patients in the public room. He afterwards lay down with blankets over him, and I carried in water as before. I saw Mrs. Dresser there on the Sunday. On Monday morning he again had a bath, and tapioca and bread and butter as nourishment during the day. I carried no water in on Monday until the evening. A bath might have been given to Mr. Dresser without my knowledge. I made no observation on the Monday evening about the perspiration in which the deceased had previously been having stopped. I did not see Mrs. Dresser in the room on Monday night, or make such an observation to her. I saw deceased on Tuesday morning, and I believe that the Doctor sat up with him all Monday night. He had no bath on the Tuesday morning. It was about 7 o'clock in the morning, and he was lying on the bed. I did not see him afterwards alive. I am not aware that he had any other food than the tapioca and bread and butter I have spoken of. One of the bathmen was ill on Monday, and the "boots" attended for him. By Mr. Jones.—The "boots" was in deceased's room on Monday evening, and might have taken in a bath without my knowledge. There are no written minutes of the temperature of the baths, but there are written orders as to the heat hung up in the patient's rooms. We try the heat with a thermometer. By Mr. Prendergast.—On the Sunday I took some castor oil to the deceased, by order of the Doctor. The deceased took all the food he desired. By a Juror.—We changed the temperature of the water frequently, according to the Doctor's order. I never took the cold water without the hot.

Mr. Charles Waterworth, examined.—I reside in Bengal-place, New Kent-road, and am a surgeon. I have known the deceased, Mr. Dresser, for six or seven years. During that period his general state of health has been good. I attended him for rheumatism four years ago, occasionally in the stomach. I last attended him for jaundice and stomach derangement in March last, which arose from impediment to a natural flow of bile into the bowels. There was not disease of the liver. I have not seen him since the middle of April, when I attended the *post-mortem* examination of the deceased's body. There was nothing to account for death but the congested state of the lungs and the heart. Mr. Hicks was present with me, and we both agreed at the time as to the cause of death. The coroner here handed the paper, purporting to be the cause of death, to the witness, which Dr. Ellis had given to the deceased's cousin, and asked if he had read it? Witness.—Yes, I have. The Coroner.—Does that statement agree with what was ascertained on a *post-mortem* examination? Witness. Not in any one point. The Coroner again read the paper in question, and called the attention of the witness to the various symptoms the deceased was stated therein to have exhibited by Dr. Ellis, the whole of which he contradicted from his own observation of deceased. Evidence resumed.—From reading this paper, I have no doubt the deceased was treated for disease of the liver and its consequences. Deceased was a man of very feeble power as regarded the action of the heart. I don't think there could have been any reason for treating him for diseased liver. The only judgment I can form of what disease deceased was labouring under from that report is difficulty of breathing. Had the liver of the deceased been diseased, as described, nothing could

more rapidly have destroyed his life than the hydropathic system. The placing him in baths would peril the life of a patient labouring under disease of the liver, particularly with suppuration, by lowering the power of the system. By the Coroner.—I attribute the congestion of the lungs and heart of deceased to the external application of cold. By Mr. Prendergast.—A depression of animal powers, depression of the action of the heart, may cause congestion of lungs and heart, but not to this extent. The liver was not congested, although Mr. Hicks thought so; but I can say I hardly ever saw a more healthy liver in my life. It is a falsehood for any one to say that this investigation has been induced by me. I never suggested to the widow to have her husband's body opened. Mr. Prendergast here proceeded to cross-examine the witness, and Mr. Waterworth loudly complained against the course of proceeding. The Coroner interfered, and remarked, that as Mr. Prendergast was attending on behalf of a person whose position might be affected by the inquiry, it would, perhaps, be necessary to answer all the questions put by that gentleman. Mr. Waterworth was then cross-examined at great length, as to conversations he had had with Mrs. Dresser, since death, and as to the *post-mortem* examination. Mr. Prendergast again commenced calling out to him,—"Come, Mr. Medical-man, do you mean to answer that?" Mr. Waterworth again appealed to the coroner for protection. The Coroner.—*I cannot, Mr. Prendergast, allow you to insult a respectable gentleman, under examination in this court, by using such terms as—"Come, Mr. Medical-man;" do behave as a gentleman, Sir.* Mr. Prendergast, (with great warmth).—Oh, you say that to me, do you? The Coroner.—Yes, and if there is a repetition of the conduct, *I shall have you removed from the court.* I am always willing to give every licence to professional men to discharge their onerous duties before me as coroner, but I again say if there is a repetition of such conduct as yours, Mr. Prendergast, I must order your removal. Cross-examination continued.—I think any baths in deceased's case, whether hot, or cold, or tepid, to have been injurious. I think that warm water at 85° would, improperly used, produce congestion. It would depend upon how long it was applied. I think it must be the opinion of every well-educated medical man, that tepid water improperly applied would produce congestion.

The Coroner said, as far as he was concerned, all the witnesses had been examined; if, however, Mr. Prendergast chose to call any on behalf of Dr. Ellis, he was quite at liberty to do so. Mr. Prendergast said he did not know if it was necessary to call any one, but he claimed his right to address the jury, as there was a serious charge against Dr. Ellis, which might affect him criminally, and he wished to show the law as it affected medical men, who were not responsible for the death of a patient under them when they were striving to do him good.—The Coroner said that was the argument adduced in the case of St. John Long, and the judges overruled it. After a long discussion between the coroner and the learned counsel, the former decided not to hear any address, as it was irregular.

Mr. Prendergast then desired to offer evidence as to Dr. Ellis's competency. The Coroner said he would hear any one called to prove that Dr. Ellis was a duly qualified practitioner in the eye of the law. Mr. Prendergast said it mattered not whether Dr. Ellis belonged to a certain College of Surgeons or not; *he could practise legally without that* (!) The learned counsel not calling any witness on this point,

The Coroner proceeded to sum up the case to the jury. He observed, that in the case of Mr. St. John Long, which had been previously alluded to, the judges had laid down the law in a very clear and perspicuous manner, as did also the present Lord Chief Justice, who was then Attorney-General, and conducted the prosecution. That learned authority argued, as in the case of St. John Long, that although there might be no malice aforethought, if he proved that the defendant had applied himself to the treatment of a case of which he knew nothing as to its proper treatment, and that he administered a liquid or medicine of the constitution of which he had no knowledge, he was clearly guilty of manslaughter. The judges in the same case laid it down that, whether a man was a legally qualified practitioner or not, went for nothing. The question was, whether the treatment adopted was a rash and reckless treatment, and which had resulted in the death of the patient, or whether it was under such treatment as might, under other circumstances, have ended in fatal results. Now, in the present instance, they had no evidence that Dr. Ellis was not a duly qualified practitioner, and, therefore, the sole question for the jury to consider was, whether, in the present case, he had acted towards the patient in a *bonâ fide* manner, or had acted in his treatment with a gross degree of recklessness, or rashness and incaution, and thus caused death to ensue. If the jury viewed the case as one of *bonâ fide* treatment, then they were bound to acquit Dr. Ellis of all blame; but if, on the contrary, they considered he had acted with rashness, then their verdict would be one of manslaughter.

About half-past 6 o'clock the jury retired to consider their verdict, and after about

twenty minutes' absence, came into Court, when the Foreman said the jury were of opinion "that Mr. R. Dresser had lost his life by the improper treatment he received in the hydropathic establishment at Sudbrooke Park."

The Coroner.—Do you say from gross rashness, or from causes over which there was no control? You must either state that, or that it was in consequence of the rash treatment he received there. I must get the jury to retire again and amend their verdict.

The jury again retired for about a quarter of an hour, and on their return the Foreman said,—We have unanimously agreed, "that Mr. Dresser's death resulted from *the rash treatment he received under Dr. Ellis's care. We are unanimous in a verdict of Manslaughter against Dr. Ellis.*"

The Coroner then bound over Dr. Ellis in the sum of £500, and two of his friends, Mr. John Cassell, of St. John's Villas, St. John's Wood, and Mr. David Coote, in the sum of £250 each, as his securities that the Doctor should appear and take his trial at the next session of the Central Criminal Court on the charge of manslaughter.

*** This is a somewhat remarkable case; but as it will speedily give rise to a question at the Central Criminal Court respecting the propriety of the plan of treatment adopted, it would be premature to offer any lengthened remarks on the subject at the present time. It will doubtless be the St. John Long affair over again. It is not at all probable, that Dr. Ellis acted *bonâ fide;* but he appears to have been entirely mistaken in his diagnosis; and the method of treatment adopted for a person in the condition of the deceased, was of so extraordinary a kind that the fact of its being followed by death can create no surprise among members of the medical profession. That, according to the verdict, the deceased was hurried *bonâ fide* out of the world, there can, it appears to us, be very little doubt. As his counsel suggested, the accused might practise legally without belonging "to a *certain* (*!*) College of Surgeons;" and it is unfortunately too true, as the Coroner stated in his charge to the jury, that whether a man be a *legally qualified* practitioner or not, is immaterial. The law of England, in its tender feeling for free trade in physic, and the open encouragement of all kinds of quackery, throws the same protection around the uneducated pretender as around the qualified practitioner: and under these circumstances, cases of the above description must occasionally present themselves. No doubt that, at the trial which will shortly take place, the homœopathists and hydropathists will make a struggle to get up an admirable defence. We cannot conclude without commending the spirit of the coroner in threatening to remove from the court the counsel employed by the defendant, for a gross and unwarrantable attack made upon a highly respectable medical practitioner. It is not often that a judge has the courage to request an advocate to "behave like a gentleman," although the occasions on which such a request might be reasonably made—at least in reference to "Old Bailey practitioners"—are by no means unfrequent!

## Selections from Journals.

### ANALYSIS OF THE FLUID OF HYDROCELE.

BY HELLER.

Heller offers the following account as the result of many analyses of this fluid. It is usually of a light wine-yellow colour, sometimes of a brownish-yellow; the intensity of this yellow colour is proportionate to the greater or less quantity of bile-colouring matter present in the fluid. If it contain blood, it has a brown colour; when the quantity of blood is large, the fluid equals, or even surpasses, blood itself in colour and consistence. It has frequently a putrid odour, especially if it has remained long in the sac before being evacuated, and in one case it contained a large quantity of sulphuretted hydrogen. The quantity of the fluid varies much, as is well known, yet its specific gravity bears no certain relation to its quantity. Its average specific gravity is 1020. In reaction it is always more or less alkaline. It frequently deposits a sediment, which is sometimes abundant, and contains a large quantity of pus. When blood is present, a number of blood corpuscles and fibrinous coagula are usually deposited. In many cases, although there is no deposit of blood corpuscles, yet the fluid contains much hæmatosin in solution, together with bile-colouring matter. A microscopic examination of this fluid usually shews, blood-corpuscles (these are not always present;) epithelial particles; albuminous or fibrinous coagula; albumen emulsion globules (albumen emulsionkugelchen); cholesterine, which is frequently very abundant, and appears in the form of beautiful glistening crystals; inflammation-globules; and pus, nuclei of the corpuscles of which are usually very distinct, and the corpuscles themselves strongly granulated. Heller also now admits, that spermatozoa are occasionally found in the fluid of hydrocele. The quantity of albumen in the fluid varies greatly, ranging from 3 to 60 parts in 1000. Of the fixed salts, chloride of sodium is by fart he most

common, and is often present in great abundance. Heller relates that he has also found both urea and uric acid in the fluid of hydrocele. The quantity of fat in this fluid also varies much; considerable deception, however, is likely to arise in regard to its amount, for very frequently it exists in greater abundance than would at first sight seem to be the case, owing to its being in a state of combination. Thus it occurs largely in the form of margarate of soda, upon the addition of nitric acid to which, a quantity of fluid fat, which before was not visible, makes its appearance. Another form in which fat appears is that of an emulsion combined with albumen, forming a milky fluid similar to that which is found in milky serum of the blood. Heller says that he has often found bile itself (not merely the colouring matter, but bilin) in the fluid of hydrocele; this shews that this substance must (contrary to Simon's supposition) have existed as such in the blood, for it must have been through the medium of this fluid that the bile found its way into the sac of hydrocele.—*Archiv. für Chemie und Microscopie*, vol. i. p. 215.

## SURGERY.

### DIAGNOSIS OF ADIPOSE TUMORS.

BY SIR B. BRODIE.

Although the diagnosis is generally easy, circumstances may occur to make it difficult. A lady had a tumor behind her shoulder, and various opinions had been given as to its nature. In performing the operation for its removal the trapezius muscle was found lying over it, and, on some fibres of the muscle being divided, out started a fatty tumor. As long ago as when I was a student, a lady had what appeared to be a tumor of the breast. She was the wife of a medical practitioner, and had the opinions of three or four of the leading surgeons of the day on her case. One thought that it was a case of *fungus hæmatodes*; another thought that it was something else; and a third could give no opinion at all. At last it was decided to cut down on the tumor; and on this being done it was found to be a great mass of fat. It had been situated under the gland of the breast, which, being of a large size, concealed the tumor completely, and, being lifted up by it, seemed itself to be enlarged. A gentleman had a tumor of the scrotum. Mr. Lawrence, Mr. Travers, Mr. Edwards, and myself, saw the patient in consultation. The tumor gave to the fingers the impression that would have been given by an omental hernia; and it could be traced distinctly to the abdominal ring. It was quite distinct from the testicle, but lay behind it. We all found it easy to say what the disease was not, but no one of us could venture to say what it was. As, however, the tumor was certainly unconnected with the testicle, we agreed that it should be removed by the knife, and Mr. Lawrence performed the operation. It proved to be a common fatty tumor, which had its origin in the adipose substance connected with the spermatic cord within the abdominal ring, and which, as it increased in size, had made its way in that direction in which there was the least resistance—that is, into the loose cellular structure of the scrotum.—*Lectures illustrative of various Subjects in Pathology and Surgery.*

## Correspondence.

### EFFECTS OF RANUNCULUS BULBOSUS.

Sir,—Although aware of the poisonous properties of many of the Ranunculaceæ, I did not expect to find such severe symptoms produced by the Ranunculus bulbosus.

A young lady, of 15, ate several stems and flowers of the plant, and chewed many more, sucking the juice; six hours afterwards she complained of sickness and sense of heat in the throat, followed by tenderness of abdomen, delirium and stupor;—these lasted eight days, leaving her in a state of debility. The treatment consisted in the use of emulsions of olive and castor oil, with oily clysters, and a diet of gruel, milk, and broth.—I am, sir,

Yours, &c.

George Baines,
Barnet, June 8, 1846. Surgeon.

## Medical Intelligence.

### LIFE-INSURANCE—THE HERNIA CASE.

In a recent number we gave a report of the important trial of Ashby *v.* Bates*, in which a policy of insurance was set aside on the ground of the fraudulent concealment of irreducible hernia by the insured: it appears that litigation is not to end here. On Tuesday last a motion was successfully made in the Exchequer for a new trial, on the ground that the defendant had been improperly allowed to begin, which, in Nisi Prius cases, is well known to be a considerable advantage in his favour. The judges held unanimously that the plaintiff had been improperly deprived of his right.

### RELAXATION OF THE FRENCH LAW OF QUARANTINE.

The French government has lately adopted a rule respecting the period of quarantine

* Page 748.

which has been introduced by the governments of Austria and England, so far as concerns passengers in steam packets (but not merchandise), namely of including in the period, the time occupied in sailing from port to port. The late report of the commission appointed by the Academy, and the publications of M. Aubert Roche, have led to this mitigation of the law.

Another circumstance which is likely to have had some influence over the French government, is the fact that the Austrian and English steamers have drawn away a large portion of the passenger traffic between India and Europe. It was a strange fact, that a person could reach Paris sooner by making a voyage from Alexandria to England, than by landing at Marseilles, owing to the obstructive system of quarantine maintained in the French ports.

According to the new ministerial measure, the duration of the quarantine for passengers and merchandise coming from Constantinople by the packets and other vessels, having a medical man on board, will be nine whole days, counting from the day of departure. Vessels arriving without a medical officer on board to be subjected to a further delay of five days. The quarantine for vessels arriving from Alexandria, and having a medical man on board, is fixed for twelve days after departure. All these measures apply only to vessels arriving at Marseilles with clean bills of health.

Reports and discussions on the subject of quarantine are still going on before the French Academy. We propose, when the subject is completed, to give a condensed view of this important question.*

### ARTIFICIAL BILIARY FISTULÆ.

M. Boudlot has reported to the Academy of Sciences, that after numerous trials he has at length succeeded in producing, by artificial processes, in dogs, biliary fistulæ without the least disarrangement of health, although not a single particle of bile enters the intestines. The reporter observes that this is likely to become a valuable addition to medical science!—*Gaz. des Hôpitaux.*

### EPIZOOTIC DISEASE IN RUSSIA.—THE ASIATIC CHOLERA.

An epizootic disease is at present diffusing itself among cattle in the southern provinces of Russia. The symptoms are somewhat similar to those of the cholera, and it was observed to prevail among the cattle of these districts during the prevalence of this disease in 1830-1.

No further intelligence has reached us of the diffusion of cholera through Russia. We may as well state, however, that the article which we inserted on this subject in our number for May 1, after having gone the round of the English and French papers, was published in the Gazette Médicale, of May 30, and reappeared in English in an abridged form as *news* in a contemporary medical journal for June 6!

* Dr. Prus's Report, a volume of 663 octavo pages (!), has just reached us.

### CHOLERA AT ADEN.

The latest accounts from Aden, on the Red Sea, bring the intelligence that on the 6th ult., after four days of heavy rain, cholera suddenly appeared in the Jews' quarter, and rapidly spread into the other parts of the town inhabited by the Arabs; since which time up till now it continues on the increase. On the first appearance of this most formidable disease, Dr. Malcolmson, the civil and staff surgeon, in concert with the political agent and Mr. Cruttenden, the police magistrate, took measures to have all those attacked immediately removed to the Civil Native General Hospital, lately opened for relief of all the sick belonging to the town and native shipping. The Arabs, without the least hesitation or objection, have availed themselves of the benefits of this institution; but the Jews cannot be persuaded, in every instance, to resort there for advice and medicine. Consequently, there have been more deaths amongst the Jews than amongst the Arabs. Up to the present time the deaths may be computed at 30. Only three instances have occurred in the military lines, one gun Lascar, attached to the Artillery, and two labourers, natives of India, employed in the Engineer department. All precautions practicable have been taken to prevent the disease from spreading amongst the European and native troops, by forbidding them to visit the town till the disease subsides. The weather at Aden has been very unusual, much colder than in any year since its occupancy by the English.

### CHOLERA IN THE FRENCH SQUADRON.

The latest accounts from the French squadron in the China Seas are dated the 29th of March last. During its stay at Manilla a number of men are reported to have died of cholera.

We learn from the last number of the Gazette Médicale, (June 6), that the French government contemplate sending to the East Indies two young physicians, for the purpose of observing and studying the nature and progress of the Pestilential Cholera.

### A PHYSICIAN KILLED BY TAKING THE MEDICINE WHICH HE HAD PRESCRIBED FOR A PATIENT.

The Gazette des Hôpitaux relates the following singular case:—A Dr. Bader, an old and respectable practitioner of Macou, wrote a prescription for a patient of which prussic acid was one of the ingredients.

The apothecary who prepared it, affixed to the medicine a label to the effect that whoever swallowed the draught would infallibly die. The patient, on seeing this formidable announcement, declined taking the medicine. The prescriber assured the patient that the apothecary was a very ignorant man, and not to be trusted. To prove himself right, and the apothecary wrong, he swallowed the draught, and died from its effects in half an hour.

### THE UNIVERSITIES OF DENMARK.

In the University of Kiel, in Denmark, there are at the present time 52 professors and only 200 students, or, statistically speaking, one professor to *four* students! This appears a low average, but we very much doubt whether, in taking the medical schools of London and the provinces, the proportion of students to professors and teachers would not be found even lower than this.

### M. ALEXANDER DE HUMBOLDT.

This distinguished traveller, who has been appropriately called the circumnavigator of science, has just had conferred on him the degree of Doctor of Philosophy of the University of Erlangen. He is a great pluralist in degrees; for, according to the French journal from which we quote, the honour has been conferred on him by *nineteen* Universities.

### ROYAL COLLEGE OF SURGEONS.

Mr. Cæsar Hawkins, Surgeon to St. George's Hospital, has been recently elected a member of the Council of this College, to fill up the vacancy occasioned by the death of Mr. John Scott.

### UNIVERSITY OF LONDON.—EXAMINERSHIP IN SURGERY.

Mr. Cæsar Hawkins, Surgeon to St. George's Hospital, has been appointed Examiner in Surgery in the University of London, to fill up the vacancy occasioned by the resignation of Mr. Bacot.

### THE NATIONAL ASSOCIATION.
### DINNER TO R. R. PENNINGTON, ESQ.

The Committee of the National Association held their dinner, in honour of their venerable President, Mr. Pennington, on the 3d inst., at the Albion Tavern, where a large number of gentlemen assembled on the occasion.

John Hussey, Esq. Chairman of the Committee, was in the chair, supported by B. Hawes, Esq. M.P., and the Chisholm of Chisholm.

After the usual toasts, the Chairman proposed, amidst general applause, the health of their highly respected guest, R. R. Pennington, Esq.; dwelling upon his high character as a man and as a practitioner, and referring to the important benefits that had resulted to the Association from the sanction of his name and character.

Mr. Pennington, in returning thanks, reiterated his determination to support the cause of the general practitioners to the best of his ability, and regretted only that his advanced years must necessarily limit the duration of those labours for the good of his brethren which he pledged himself to continue. He concluded his speech by proposing the health of the Chairman.

Mr. Hussey returned thanks for the honour done him, and expressed his perfect satisfaction with the proceedings of the Association. He then, in proposing the health of Mr. Hawes, passed an eulogium on him as the able representative of the Association in Parliament.

Mr. Clifton then gave, "the Honorary Secretaries;" and descanted at length on the valuable services which they had rendered to the Association. His speech embraced numerous topics connected with the welfare of the general practitioners. The toast was received with acclamation, and the Honorary Secretaries returned thanks.

### FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY.

The annual dinner of this institution was held on the 3rd inst.: Sir James Duke, M.P. the alderman of the ward, took the chair. About 30 gentlemen were present. Mr. J. Galsworthy, the secretary, read the report, from which it appeared that the number of patients relieved during the last year was 3,133. The committee announced the removal of the dispensary to much more commodious premises in Bartlett's-Buildings, Holborn. It appears that the limited income of the charity is by no means commensurate with the calls upon it, and the greatest desire was expressed to free the institution from the debt of £300 which at present hampers its efficiency. A donation of £30 from the president, Lord Denman, was announced amid the cheers of the meeting, and a list of further donations, amounting to £76, was read by the treasurer, Mr. Deputy Bedford. Arrangements were made for bringing the claims of the charity, and the great amount of good effected by it, under the notice of the wealthier inhabitants of the ward by means of a deputation, and also for insuring a greater harmony between the committee and medical officers, the latter of whom claimed to vote in the proceedings of the committee. Since the establishment of the charity, in 1828, up to the commencement of the present year, relief has been afforded to no less than 53,590 patients, of whom at least one-fourth, inclusive of midwifery cases, have been attended at home.

### BATHS AND WASHHOUSES FOR THE LABOURING CLASSES.

A PETITION has been presented to both Houses of Parliament—in the Lords by the Bishop of London—to the effect that it would be highly desirable to enact a law for the establishment of public baths and washhouses, and their support for a limited period at the public expense. Such a measure, it is urged, is not only required on the ground of public principle and national policy, of duty and expediency, but for the purpose of affording relief to a vast proportion of the inhabitants of large towns and populous districts, from evils now incident to their social position, from which they cannot relieve themselves; and that it would add greatly to the efficiency of other measures proposed for the welfare of the people at large.

The petitioners suggest, that, for this purpose, it would be proper to pass an act enabling such boroughs and parishes as might voluntarily resolve on adopting its provisions, to establish public baths and washhouses for the use, at moderate charges, of their respective inhabitants: for that purpose to obtain loans, as for other public works; for the repayment of such loans, and the support of the establishments during such a period as may be necessary for bringing them into full work, to impose moderate rates, and to carry the income to be derived from such establishments (which, when they are in full work, may be reasonably expected to leave a yearly surplus over expenditure) to the credit of the rates.

This is a very laudable scheme. How far it may be practicable to carry out the views of the committee by Act of Parliament is another question. Facilities thus given to the poor for frequent ablutions and the maintenance of personal cleanliness, will not only improve their moral condition, but be likely to render diseases of the skin of less frequent occurrence.

It is singular that, after the long lapse of centuries, we should have an attempt to carry out, by law, a practice the value and importance of which, in relation to public health, were well understood by the ancient Romans. The public baths of Rome (*Terme*) in the time of the empire, were constructed upon a stupendous scale. The outer walls of those of Diocletian, Caracalla, and Titus, are still standing. One hall, in the baths of Caracalla, near the gate of San Sebastian, is still shown to the traveller, in which it is stated there were seats for no less than two thousand persons! The day for the execution of such gigantic public works appears to have passed away, and we are obliged to have recourse to voluntary contributions, or to forced levies by the aid of Acts of Parliament. We cannot but think, that if, instead of devoting their wealth entirely to the foundation of alms-houses, some patriotic individuals were to bequeath a portion of their means for the construction of public baths, on a scale adapted to the increase of the population, they would be conferring a great benefit on their country.

### MEDICAL CHARITIES AND FANCY FAIRS.

WE cannot approve of a system which is now becoming common of endeavouring to raise subscriptions for medical charities by the sale of pin-cushions, cigar-cases, &c. &c. We had thought that this mode of levying contributions on the public, had been restricted to the Royal Dispensary for Diseases of the Ear—the wonder-working influence of which is regularly displayed in flourishing advertisements during the fancy-fair season. We now find, however, by printed circulars widely distributed, that the new Consumption Hospital at Brompton is entering the lists against the Royal Dispensary, and the names attached to the circular include, we must admit, as goodly an array of aristocratic stall-keepers as we ever encountered in any of the Dispensary advertisements.

It appears that the sum already subscribed for this hospital, the first stone of which was laid on the 11th June, 1844, amounts to £8,808, and that the present income from annual subscriptions amounts to £1,425. The cost of the present building is £13,446, and it is capable of receiving 100 patients.

This charity, we believe, has been founded with the best intentions, *i. e.* to afford relief to a large class of cases which, from the hopeless nature of the disease, are for the most part rejected from all the great London hospitals. In this respect it deserves support. We only regret to see it attempting to increase its funds by resorting to means which respectable hospitals and infirmaries have not hitherto adopted. We suppose we shall be met by the argument, "*quocunque modo rem*," and it would appear from the report before us, that the return of a speculation of this kind is so satisfactory, that the repetition of the experiment can create no surprise. We suppose it depends on the principle that the charitable contributions of some individuals can only be extracted from their pockets by their receiving something, however insignificant, in return for the money subscribed!

The success of such pseudo-charitable schemes realizes the truth of Napoleon's sneer, that we are nothing more than a nation of shopkeepers. If a practice of this kind be good for one it is good for *all* charitable medical institutions which happen to be in want of funds; but we think there are many, the governors of which would hesitate long before they adopted the motto, "*Post nummos virtus.*"

## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

FRIDAY, *June* 5.—F. J. Rowen.—S. Devenish.—F. G. Harcourt.—T. G. Alanson.—A. H. Bayly—H. Bate.—C. W. Izod.—W. J. Burke.—J. Hey—M. J. Burke.—W. Ferguson.—R. W. Purnell.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *June* 4.—Frederick Robt. Knight, Australia.—John Hen. Eddowes, Loughborough.—John Elliott Wood, Rochdale.—Thomas Joshua Heaton, Standish, Lancashire.—Peter Royle, Manchester.—Robert Roper, Botesdale.—Francis Leopold Hooper, Great Canfield Vicarage, Essex.—Thomas Benj. Washington Buckler, India.—John Lawrence Johnston, Penrith.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, May* 30.

| Births. | | Deaths. | | *Aver. of* 5 *yrs.* | |
|---|---|---|---|---|---|
| Males.... | 705 | Males.... | 431 | Males.... | 493 |
| Females . | 723 | Females . | 404 | Females . | 475 |
| | 1428 | | 835 | | 968 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129.

*Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 107 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 157 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ..... (Pop. 374,759) | 155 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ..... Pop. 393,247) | 177 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ..... (Pop. 479,469) | 239 |
| Total ..... | 835 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Springs; Col. B. of 5 Years.

| | A. | B. |
|---|---|---|
| ALL CAUSES ..... | 835 | 892 968 |
| SPECIFIED CAUSES ..... | 831 | 886 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 126 | 162 188 |
| *Sporadic Diseases*, viz.— | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 91 | 98 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 144 | 155 157 |
| 4. Lungs, and other Organs of Respiration ..... | 279 | 271 294 |
| 5. Heart and Blood-vessels ..... | 41 | 26 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 72 | 65 72 |
| 7. Diseases of the Kidneys, &c... | 13 | 7 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 13 | 9 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 9 | 6 6 |
| 10. Skin, Cellular Tissue, &c. .... | 0 | 1 2 |
| 11. Old Age..... | 20 | 60 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 13 | 25 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 3 | Convulsions .... | 3 |
| Measles ..... | 7 | | |
| Scarlatina ..... | 23 | Bronchitis ..... | 42 |
| Hooping-cough.. | 33 | Pneumonia..... | 39 |
| Typhus ..... | 28 | Phthisis .....166 | |
| | | Dis. of Lungs, &c. | 11 |
| Dropsy..... | 5 | Teething..... | 9 |
| Sudden deaths .. | 9 | Dis. Stomach, &c. | 6 |
| | | Dis. of Liver, &c. | 12 |
| Hydrocephalus .. | 41 | | |
| Apoplexy..... | 17 | Childbirth ..... | 9 |
| Paralysis..... | 41 | Dis. of Uterus, &c. | 1 |

REMARKS.—The total number of deaths was 57 below the vernal and 133 below the annual average. The deaths from Zymotic diseases, including typhus fever, were much below the averages. The deaths from phthisis were a little above. In all the districts, the mortality was below the averages.

## METEOROLOGICAL SUMMARY.

| | |
|---|---|
| Mean Height of Barometer ..... | 30·06 |
| „ „ Thermometer[a]..... | 57·6 |
| Self-registering do.[b] ..... | max. 99·5 min. 30· |
| „ in the Thames water. | — 64·8 — 58·8 |

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was 3·6° above that of the mean temperature of the month (54°). The extreme hebdomadal range in the self-registering thermometer was 69·5°.

## NOTICES TO CORRESPONDENTS.

In order to complete some papers already commenced, we have been compelled to postpone several communications until our next number.

A correspondent from Aberdeen inquires whether the delivery of females does not take place more frequently on a Monday, than on the other days of the week. According to his own experience, deliveries on that day are to those which occur on the other days, as 7 : 3. He assigns a reason for this alleged disproportion; but before publishing the alleged reason, it may be as well to ascertain whether the fact observed by him is not a mere coincidence.

In our next number will be inserted a paper, being a continuation of Mr. Erichsen's Practical Observations on Diseases of the Skin.

It was our intention to have commenced in the present number the publication of a Series of Cases, treated in St. Bartholomew's Hospital, (with Clinical Observations,) reported by Mr. Luther Holden, but we are compelled to postpone them till next week.

The present volume is so nearly completed that it will be advisable to postpone Dr. Robinson's paper on the Treatment of Inflammation until the commencement of the next volume.

Mr. Mason's letter, in reference to the case of Donnelly *versus* Scott reached us too late for this week's number.

We have no doubt that our correspondent, Mr. R. Clark, is correct in his statement. The editor of the French journal from which it was quoted, gave it as a case of recent occurrence.

## Lectures.

### A COURSE OF LECTURES ON MEDICAL JURISPRUDENCE.

*Delivered at Guy's Hospital,*

By Alfred S. Taylor, F.R.S.

### Lecture V.

*On Putrefaction in the Earth—Changes in the viscera—Variable rapidity in the putrefaction of bodies buried in graves—Period for the destruction of the soft parts, and exposure of the bones—Indestructibility of the teeth and hair—Circumstances which affect the putrefaction of bodies in graves—Period of interment—Deposition of ova by insects—Depth of the grave—State in which the body is buried—Preservative influence of the soil of privies. Saponification of the body—Mode of production of adipocere—Its nature and properties—Circumstances which favour its production—Time required—The proofs of the* Reality *of* Death. *Alleged Cases of premature interment—Mistakes made by ignorant persons—Laws regarding the burial of the dead in different countries—Early interments during the prevalence of cholera.*

In the last lecture we directed our attention to the phenomena of putrefaction generally as they occur in the dead human body exposed to the influence of air or water; and on the present occasion I propose making a few remarks on those modifications of this process which are observed when a body is buried in the earth.

*Putrefaction in the earth.*—Exhumations are occasionally ordered for the purposes of justice, and it is under these circumstances that an opportunity sometimes occurs for observing the progress of putrefaction in the dead. Unfortunately the results of these observations have hitherto led to no satisfactory conclusion; for sometimes one body has been found more decomposed after six or eight months burial, than another which has lain interred for a period of eighteen months or two years.

From the facts yet collected, and more especially from the researches made by Orfila, it would appear that the changes which take place are very similar to those described in speaking of putrefaction in the air. There is in the first instance a discolouration of the skin of the abdomen, owing to decomposition taking place more readily in the contents of the viscera. The skin of the whole body becomes green, and the epidermis loose and easily detached by pressure or friction. The muscles also acquire a dark green colour,—become more or less pulpy, and in the course of time lose their fibrous character. The lungs become emphysematous, and completely fill the cavity of the chest. The heart, liver, and kidneys, become softened and discoloured: when the process is far advanced these organs are emphysematous, and float on water. The stomach, intestines, and bladder, have their mucous surfaces stained with patches of a yellow, brown, green or slate colour. The marks of irritant poisoning begin to disappear, and those pathological changes in the viscera, which are so characteristic of death from poison, begin to be lost in these discolourations from putrefaction. As the process advances the body becomes covered with fatty incrustations of a reddish brown colour, and the interstices are filled with the common blue mouldiness. The skin and soft parts become thin, fall off in places, and expose the bones. The abdominal and thoracic parietes are so collapsed as to be in contact with the anterior portion of the vertebral column. The muscles become considerably reduced in bulk; and they may be found in part saponified, or converted to adipocere. The viscera are also shrunk up, collapsed, and often, if we except the stomach and duodenum, so intermixed, that it is difficult to identify them. The liver may in this way be found incorporated with the lungs, owing to the destruction of the diaphragm; and the brain completely collapsed. The features are entirely destroyed, and the form of the skeleton is now apparent. In a still more advanced stage, scarcely any traces of the soft organs are to be met with. The muscles, if not already saponified, pass to the condition of brown foliaceous masses. This is chiefly observed in those bodies which have been buried in a dry gravelly soil. The bones are disarticulated, the long bones giving the perfect outline of the skeleton, while the short and flat bones, including the bodies of the vertebræ with the base of the skull, are converted into a brownish white pulverulent mass, mixed with the friable remains of the coffin in which the body was buried.

It has been found utterly impossible to assign any fixed period to these changes, or from an observation of them, to give any definite opinion respecting the length of time which a body may have remained interred. The reason is obvious; subjects putrefy with very different degrees of rapidity even when they have been interred under similar circumstances. In one subject, buried for a period of nine months,

and in another for thirteen months, there were no traces of abdominal parietes to be discovered; in a third case, the parietes were found almost entire in a body which had been buried twenty-three months: yet these three bodies had been wrapped in cloth of the same texture, and buried by the side of each other in coffins of the same kind of wood.

It is commonly said that the soft parts are entirely destroyed in a period of seven years; but this will depend entirely on the circumstances under which the body is buried; *i. e.* the kind of coffin, and the depth of the grave. Devergie states, that in one instance he met with no trace of a shroud in a body which had been buried three years and a half, while in another a portion was discovered after seven years' interment. I had an opportunity of examining a grave in which a body had been buried twenty-five years. Disintegrated portions of the coffin were found, but of the body only the skull (excepting the base) and some portions of the long bones. In an adjoining grave, nearly the entire skeleton was discovered lying at full length, surrounded by the decomposed coffin. This was after thirty-four years' burial, and the bones were nearly all perfect. I also found here traces of the shroud on the inside of what had been part of the coffin-plate, and the texture of linen was made evident by submitting it to the microscope. Unless the body has been buried in metal, or become saponified, it is not probable that any of the soft parts will be found after ten or twelve years. They may exist as a sort of unctuous fat mixed with the wood and earthy matter, but they are not likely to be in a condition to admit of identification. Perhaps the usual period for the destruction of the soft parts in common wooden coffins, may be taken at from seven to ten years.

In most instances of judicial exhumation the period of interment is well known, and no opinion is required of a medical witness on this matter. The only case in which he may be called upon to give an opinion is where nothing but bones lying loosely in the soil are disinterred; and upon this part of the subject we shall have something to say hereafter. Great embarrassment might exist in settling the period of interment in an unknown case, when a body has been buried in a coffin; but this does not, for obvious reasons, occur in practice. Those who have died a violent death are commonly interred in loose ground; hence the data obtained by examining the progress of decomposition of bodies placed in coffins, even if they were more precise, could rarely be available for practical purposes.

The teeth, the bones, and the hair, are among the most indestructible parts of the body, and in all exhumations it will be necessary to secure any portions of these. They often throw light upon the age and sex of the individual, and serve to determine important questions of identity.

The circumstances which modify the progress of putrefaction in the *earth* may be in some measure anticipated from what has been already said of that process. Among them may be enumerated age, constitution, state of health or disease, the kind of death, whether the body be mutilated or entire when buried, the period during which it may have been exposed to the atmosphere before interment, the nature of the soil in which it is buried, and the depth of the grave, with other circumstances, the precise influence of which it is very difficult to estimate.

It will, however, be proper to consider a few of the conditions which affect the decomposition of bodies buried in the earth, since without a knowledge of them a witness may be led to express an erroneous opinion. The most important are:—

I. *Period of interment.*—It is well ascertained that a body putrefies much more rapidly in air than in any other medium; hence, if it be kept long exposed before it is interred, putrefaction will take place much more readily, and advance to a much greater extent, than if it be buried very soon after dissolution. On this subject it may be remarked, that, if a body be kept exposed during the summer for five or six days, and then interred, it may be found on exhumation after the lapse of a month, that putrefaction is as far advanced, as it would have been after the lapse of several months, supposing that the subject had been interred within a few hours after dissolution. Owing to this circumstance there is always a difference in the rapidity of decomposition according to whether the bodies on which the observations have been made, were interred after exposure to a hot and moist, or cold and dry atmosphere. It has been already stated, that the period at which cadaverous rigidity of the muscular system ceases, is that at which putrefaction may be considered to commence. Many circumstances have been pointed out, which retard or accelerate the access of this condition of the body. When cadaverous rigidity has been retarded by any of the casual circumstances mentioned, as by wrapping the subject in flannel or linen, the putrefactive process will necessarily be a longer time in making its appearance. When the rigidity is a speedy consequence of dissolution, we may expect that putrefaction will take place rapidly.

II. *Deposition of ova by insects.*—According to Orfila, there are no less than twenty species of insects which deposit their ova on the surface of the dead body; and the larvæ

produced from these ova rapidly assist in the decomposition and entire destruction of parts. Among these, the *musca tachina simplex* and *carnaria* may be particularly mentioned. For a short period after death, flies and other insects, even of a parasitic kind, seem to avoid the body: they rarely approach it or deposit their ova upon it until putrefaction has commenced. When these ova are once deposited larvæ are very speedily produced from them, and decomposition now rapidly advances. The development of these insects commonly takes place with such rapidity that the surface of the body as well as the outlets, if the temperature of the atmosphere be at all high, becomes very soon covered with ova and larvæ. It is obvious that the development of many thousands of these ova may not take place until the body is placed within the grave; and it is certain, that, when interred under these circumstances, it will be found, on exhumation after a given time, to have run through the different stages of decomposition with much greater rapidity, than a subject the interment of which took place before any ova were deposited. Admitting the correctness of these observations, the medical jurist may expect to find that a subject, interred during the summer, will, after a given time, have advanced to a greater degree of putrefaction, than one which was interred during the winter, all other circumstances being equal.

There is one remarkable circumstance connected with the history of these insects, which, if the observations of Orfila be correct, must be considered difficult of explanation. This physiologist remarked on the exhumation of bodies which had been interred at all seasons of the year, that larvæ, nymphæ, and insects in the perfect state, were uniformly met with,—especially of that species denominated *musca tachina simplex*. The subjects had been interred in some instances, for many months, in others for several years; and, generally, at the depth of from four to six feet in the soil. It is scarcely possible to admit that these larvæ and insects had resulted from ova, deposited on the body about the time of interment, which had remained dormant, or as it were in a state of hybernation for so long a period, because many of the subjects died and were interred during the winter, a season when these insects are not met with in the atmosphere. It is equally difficult to conceive that they should find their way through the earth, to deposit their ova at so great a depth below the surface.

III. *Nature of the soil in which the interment takes place.*—If the ground be elevated or on an acclivity, it will commonly be dry, and decomposition will be retarded: if the body be buried in a low situation, or in a valley, the soil being generally damp, decomposition will be hastened. A dry and absorbent soil will invariably retard putrefaction, and thus, bodies buried in the sands of Egypt, become often perfectly desiccated, and resist the process for a long series of years.

The chemical nature of the soil also, has an influence, which may be briefly stated. In sand, gravel, or chalk, putrefaction goes on more slowly than in other soils, and adipocere is rarely met with, unless there be free access of water, when that portion of the body exposed to the current may become saponified. In marl or clay, the process takes place more quickly, especially in loose mould or in any soil much impregnated with animal or vegetable matter. It is in these last-mentioned soils, provided they be not too dry, that the formation of adipocere is most abundant; and it is important to observe, that, however great the rapidity with which putrefaction may have advanced previously, it is invariably suspended on the occurrence of this process of saponification. By a reference to the nature of the soil, therefore, we may often explain why a subject, after having been interred for a considerable number of years, will be exhumed apparently unaltered by decomposition. The whole of the soft parts will be converted into this saponaceous substance; but although the physical outline may be preserved, the texture of the organs will be completely changed.

IV. *The depth of the grave.*—Observation shews that the deeper the grave, *cæteris paribus*, the longer putrefaction is retarded. This may depend upon several circumstances: as the want of a free access of air in deep graves, and the uniformly low temperature, which is known to prevail at all seasons of the year, at a certain depth below the surface of the soil. Bodies buried in shallow graves are subject to all the fluctuations of temperature which take place during the day and night, and throughout the seasons of the year; they are therefore most favourably placed for the rapid progress of putrefaction. I may here state to you that according to the most accurate observations, the diurnal changes of temperature extend to about three feet in depth below the surface,—the monthly changes are perceptible to the depth of six feet. Bodies buried below this depth putrefy slowly, *cæteris paribus*, owing to the regular and comparatively low temperature which is there maintained.

V. *The state in which the body is buried.*—Putrefaction is more rapid in bodies buried naked, than in those which have been buried wrapped in clothes. This point may be a subject requiring especial attention in investigations relative to infanticide, since the bodies of children are usually thrown naked

into a pit, and loosely covered with earth. The process is less rapid, when the body is interred in a coffin: and when the latter is formed of a very imperishable material, such as lead, hermetically sealed, putrefaction is speedily arrested; and the deceased may be easily recognised after the lapse of many years. The reason why bodies are comparatively preserved under these circumstances, is obviously owing to the access of air being cut off. Any confined mass of air, so soon as the whole of the oxygen contained within it is removed by absorption and combination, acts antiseptically:—forming an atmosphere which retards putrefaction and accelerates saponification, owing to which the body may be preserved for a very long period.

The soil of privies, according to Orfila, retards putrefaction considerably, and it has been observed that saponification takes place very readily in subjects thus exposed.

*Saponification.*—In the course of these observations, we have had frequent occasion to speak of the dead body becoming saponified: it will be therefore proper to explain what is meant by this process of saponification.

1. It is not necessary to treat of all the chemical products of putrefaction, but in the first period, viz. when gaseous products result, we find the following gases:—nitrogen, carburetted hydrogen, carbonic acid, ammonia, sulphuretted and phosphuretted hydrogen, with, under certain circumstances, the acetic and nitric acids. Sometimes these exist separately, mechanically mixed; at others, the acid gases are united to the alkaline base ammonia, itself a product of decomposition. The gas which is said to be produced in the greatest abundance, especially in drowned subjects, is the carburetted hydrogen.

The very offensive smell of a putrefying subject is to be ascribed to the volatilization of minute portions of decomposed animal matter, held probably in suspension in the aqueous vapour, which flies off mechanically mixed with various gaseous compounds of hydrogen. Sulphuretted hydrogen often appears to be present when it is not. A specimen of blood was kept sealed up *four years*, and allowed to decompose. When the vessel was opened the odour was highly offensive, something resembling sulphuretted hydrogen. But paper dipped in acetate of lead was not in the least changed by exposure to it. A stomach placed for a month in a mixture of carbonic acid and air, was found to have produced a large quantity of sulphuretted hydrogen: a piece of paper dipped in a salt of lead being exposed in the vessel was speedily turned of a dark-brown colour.

The saponaceous substance called *adipocere* was first observed and described by Fourcroy. He called it adipocere, from its properties being something intermediate between those of wax and fat. This soap he considered to be constituted of adipocere and ammonia. From the analysis of Chevreul, this substance appears to be a real ammoniacal soap and to be composed of extraneous colouring matter, which gives it a yellowish or brown colour. It contains, besides, a bitter substance not defined, and an odoriferous principle, to which it owes its smell. Chevreul also detected in some specimens, lime, potash and salts. The composition of adipocere does not appear to be uniform: it is liable to vary according to the nature of the medium to which the saponifying body is exposed. Thus, in hard or river water, the adipocere discovered on the dead is formed of a base of lime: so, on bodies laid in graves or vaults which are traversed by springs of water containing sulphate or carbonate of lime, an adipocere of stearate and oleate of lime is found, hard and white, such as the specimen here before you, from an ancient grave in Mucrus Abbey, Killarney. It is not improbable, as Orfila has suggested, that in the first instance the ammoniacal soap is produced, and that this is subsequently converted into calcareous soap by contact with the calcareous water. Indeed, Orfila experimentally established this point, by placing ammoniacal soap in maceration in a solution of sulphate of lime. In three weeks he found that the calcareous had become substituted for the ammoniacal base.

Any part of the human body may undergo this change, but all parts are not equally susceptible of it. In order that saponification should take place, it is indispensable that the animal fat should be in contact with substances containing nitrogen. Experiment has clearly established, that neither pure fat, nor pure fibrin, when kept apart will become saponified. Orfila showed by comparative experiments, that the cutis deprived of all fat did not undergo this change, while when the fat was allowed to adhere to it, it became saponified.

Upon the knowledge of these facts, the following theory of the formation of adipocere was founded. The fat containing no nitrogen, could not furnish ammonia; consequently it could not spontaneously change into this substance. The fibrin of the muscular system was therefore supposed to produce the ammonia, by giving off hydrogen and nitrogen:—the presence of this base determined, as in the production of soap, the acidification of the fat in contact with it, and then the stearic and oleic acids combined with it. This explanation is correct with one exception; namely, as to

the alleged uniform necessity for the decomposition of muscular fibre. Devergie has shown, that the fat of the female breasts, that in the hollow of the cheeks, and other large fatty accumulations, are the first to take on this change, while the fatty layers, immediately in contact with the muscles, present no appearance of saponification, until a considerably later period. The truth is, the whole of the fat of the body is contained in a cellular membrane (a nitrogenous compound), and is traversed by the blood and other nitrogenous fluids. The nitrogen is as readily furnished by these nitrogenous substances, as by the fibrin of the muscles. So, again, the skin and fat, separated from the muscles, will become converted to adipocere. The fibrin of muscles, therefore, although unquestionably one source of the ammonia, is not the sole source. Oil or fat exists throughout the soft organs and tissues of the whole body; hence every part may undergo this transformation. Here is a section of a foot in which all the structures have acquired by maceration an adipocerous condition.

This process takes place most readily—1, in young subjects, the fat being chiefly external and very abundant; 2, in those adults whose bodies abound in fat; 3, in subjects exposed to the soil of water-closets; 4, in those immersed in water, but somewhat less rapidly in stagnant than in running water; 5, readily in humid and fatty soils, especially in grave-yards, where numerous bodies have been piled in contact with each other. In this latter case, those which are situated at the lowest level become the soonest saponified. The period required for saponification to take place varies according to circumstances. Devergie states that a newly-born child in the soil of water-closets may become entirely saponified in from six weeks to two months; while in a drowned subject in water, saponification may be partially met with in three or four months; but in one buried in the earth,—from two to three years may sometimes elapse before saponification is complete.

There is no doubt that the process may partially take place in the body within much shorter periods.

As I shall hereafter have occasion to state to you, a body floating in water has been found saponified in a period of little more than five weeks, and with regard to the period in the case of a subject buried in an ordinary grave, I may refer to the case of a female, exhumed at Bristol, in 1835, after fourteen months' interment. The lower part of the body was found saponified. It appears that the grave was very damp, and the line of adipocerous transformation in the deceased, was bounded by the level to which the water had reached. These facts are of more importance than may at first sight appear, since a legal question of survivorship, in at least two cases, has turned upon the period required for the production of adipocere in the dead body.

The properties by which adipocere may always be recognized are the following:—It is an unctuous soapy substance, in which all organic texture is lost, varying in colour from a pale white, as it is found in the drowned, to a deep-yellow or brown, as it is found in those subjects buried in the earth. In hermetically sealed leaden coffins, its colour is commonly of a pale yellow. It always occupies, when recent, a greater bulk than the fat from which it is formed. In the first instance it is soft, but becomes harder and whiter by time. It melts at about 200°, and when violently heated it gives off an ammoniacal smell, inflames and burns. By long exposure to the air it becomes dry, loses its ammonia, and gradually decomposes. The calcareous adipocere, however, is scarcely altered by exposure. The ammoniacal adipocere is easily suspended in cold water, and forms an opaque mixture on boiling. Muriatic acid decomposes it, by combining with its base, forming a muriate easily recognizable. Caustic lime also disengages the ammonia from the ammoniacal adipocere. It is only partly taken up by boiling alcohol: the undissolved residue is of a complex nature, consisting, according to Chevreul, of saline matter and oxide of iron.

We have now to apply these different data, connected with death and the changes of the dead body, to the solution of some medico-legal questions—such as the reality of death, the period at which death has taken place, and the probable period of interment.

*The reality of death.*—This question, of course, can only be raised in the period preceding the occurrence of putrefaction: therefore our observations on this point may be restricted within a very narrow compass. The question, indeed, might be passed over altogether, as frivolous, were it not that many men ranking high in our profession have devoted much attention to the subject; and have thought themselves justified, from their observations, in declaring that premature interment was not unfrequently the means of consigning living individuals to the tomb. There is something terrible in the bare consideration of the possibility of such an event; and, therefore, we ought not to reject the supposition, without examining the very numerous cases which have been brought forward in support of it. In the work of M. Fontenelle, published a few years since, *forty-six* cases are recorded, either of premature inhumation, or of apparent death being mistaken for real. From a careful examination of all these cases, I

have no hesitation in saying that the greater number of them are derived from such sources as to render them perfectly inadmissible as evidence of what the author so strenuously endeavours to prove. He has collected these cases from every source, whether scientific or not; from the time of Plutarch downwards. This very circumstance would make all reasonable men distrust those instances of supposed death which are undoubtedly authentic, did not the facts appear explicable on the most common physiological grounds.

The fears which works like that of M. Fontenelle are likely to excite, respecting premature interment, are kept up by other French writers. M. Carré has recently maintained that there is *no certain sign* of death but putrefaction; and that no body should undergo interment until this process had become plainly manifested. According to this gentleman, a *presumption* of death may be deduced from a great number of signs; a *probability*, from the combination of some of the most important, such as the collapse of the eyes, and especially cadaverous rigidity; but *absolute certainty* can only be obtained by the occurrence of the putrefactive process. Like other terrorists, M. Carré attacks each sign of death individually, but he wholly conceals the fact, that a judgment in proper hands is always formed from the combination of many signs or conditions; and that medical men are not responsible for the results when the decision of an important question of this kind is entrusted to ignorant and uneducated persons. A petition was lately presented to the Chamber of Deputies, in which the petitioner declared that he had known six interments of living persons to have taken place within a period of eight months! Resting on the same authority, M. Carré asserts that since 1833, there have been forty-six cases of premature burial. Twenty-one persons returned to life at the time they were about to be deposited in the earth, nine recovered owing to the affectionate attentions of their relatives, four from the accidental falling of the coffins, two from a sense of suffocation in their coffins, three from the punctures of pins in fastening the shroud, and seven from unusual delay in the funerals; and, it is added, after this marvellous recital, that the decease of all these individuals was officially attested. A statistical calculation is then made by him from the deaths which occur annually in Paris, of the number who are likely to be buried alive.

Statements of this kind can only be received with incredulity, since no particulars are given. The cases of alleged premature interment that have yet been adduced will not bear a close examination, being nothing more than the idle tales of ignorant and superstitious persons. In this country we have no official attestation of death by specially appointed persons; but if the account given by M. Carré be true, we have no reason to regret the absence of this system: since it is doubtful whether, under the practice of the ancient searchers of London, greater negligence could have been shown, than that which is here alleged to have occurred on the part of the French officials in modern times.

Cases have undoubtedly occurred in which persons labouring under concussion, syncope, catalepsy, or lifelessness from exhaustion, have been pronounced dead by ignorant and uninformed bystanders, merely because there happened to be inanimation, coldness of the surface and no perceptible signs of respiration or circulation. If the decision of the question were always left to such persons, and interments were to follow in *a few hours*, upon their dictation, there is no doubt that the dangers of premature inhumation, in whatever country, would be great and imminent. But this is scarcely the case in any civilized country of Europe, and certainly not in England. In France the law ordains that every death must be verified by a medical officer; and no interment shall take place until after the lapse of twenty-four hours from the time of death. This rule, it is said, applies only to Paris and some of the chief cities of France. No inspection of a body is allowed to be made until after a certificate of death has been issued by the proper officer. A similar law prevails in Naples and in Portugal: but Fontanelle states that in the latter country, as well as in Spain, bodies are sometimes interred within *five* or *six* hours after death. In the Protestant parts of Germany and Switzerland, the dead are rarely buried until after the lapse of three days, a period being fixed by law, before which interment cannot take place. In this country there are no legal provisions relative to the period of interment; but the dead are rarely buried until after the lapse of from one to five days. It would probably be wise if some rule were adopted that every body should be seen and examined by a medical man twenty-four hours after death, and the fact of death attested or not according to circumstances. The defect of the continental system is, that the medical opinion may be given *at any time* after the supposed decease, and there may be occasionally great negligence in the performance of this duty. Still it is impossible to admit that, except where there is the most culpable neglect, persons can incur the risk of being buried alive when the body has been kept at least twenty-four hours from the period of the supposed decease. Non-professional persons may easily mistake a state of insensi-

bility for death. Mr. Guthrie mentions the case of a man labouring under concussion, while on board a vessel. He was supposed by his brother and the captain to be dead or dying, and without being able to make any movement to indicate that he was alive and understood their conversation, he heard them discussing the question whether his body should be buried at sea or carried on to Rotterdam. Fortunately the latter alternative was adopted. A mistake of this kind is not likely to be made by a medical man: nor among the uninformed is such a case like y to occur on land so much as at sea, where there is commouly great expedition in the disposal of the dead. Another rule might be adopted, namely, that no interment should take place until after the lapse of twenty-four hours, at the least, from the time of the supposed death, and not even then except upon the certificate of a medical practitioner.

At present the *cause* of death is certified, but the medical attendant has it in his power to give this certificate without seeing or examining the body of the deceased at that period after death which is necessary for the clear development of the signs of dissolution. Hence, unless, as it commonly happens, the interment be delayed by the relatives for twenty-four hours at the least, there might still be a risk of prematurely consigning a living person to the grave.

During the prevalence of epidemic disease, as in the time of the cholera, a provision was made, that interments should not be delayed beyond twenty-four hours, where death had taken place from the disease. There is no doubt that many were interred during the raging of the epidemic within eight or ten hours after apparent death. One instance was communicated to me where the body was wrapped in a pitch cloth and buried within six hours after the signs of life had ceased. This was assuredly a most condemnable practice, especially in cases where the deceased had not been attended by a medical practitioner. Under no circumstances should a body be buried within a shorter period than twenty-four hours, where death has taken place from chronic disease, or without any obvious and satisfactory cause. No possible mischief can result to the living by the adoption of such a practice; and it would effectually guard against premature inhumation among the lower classes of society. In stating twenty-four hours, this is to be taken as the average period:—there are cases in which the most striking phenomena of death, such as coldness and rigidity, will manifest themselves within a much shorter time than this, and in such cases a medical opinion may be given without difficulty. No coroner's inquest should be held upon a body until twenty-four hours after death. I have heard, however, of one instance in which an inquest was held on a body half an hour only after the apparent cessation of life.

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### CONCEPTION OCCURRING AFTER INVERSION OF THE UTERUS.

DEWEES says, at p. 512 of his System of Midwifery, that "we may justly entertain doubts" of the uterus having been reinstated after complete inversion. A very complete inversion of the womb is not, if it be early reposited, to be considered as obviating the liability of the patient to a subsequent conception. This I can clearly aver, upon the facts of the case published by me in the Phil. Pract. of Mid. 2d Edit. p. 356, where the case, as seen by the late Dr. James, by Dr. G. Fox, and by myself, is given at large. In that case the inversion was produced by violent and most painful tractions at the cord by an ignorant midwife, who supposed, after she had drawn the womb entirely forth of the patient's body, that the huge mass consisted of some unnatural state of the placenta, which, in fact, was adherent to it. The midwife, even after the womb was withdrawn and hanging between the thighs of the woman, made violent efforts to pull it away from her, and only desisted in consequence of her screams, and the apparent approach of death.

I reposited this womb, not by compressing the organ between my hands, as it is usually directed to be done, but by waiting until the contraction or after-pains had ceased, and then indenting the fundus with a finger, like the bottom of a bottle, and suddenly pushing the cone upwards to the os uteri, and so into the belly again. This patient was as nearly dead from hæmorrhage as any woman I have seen recover from flooding. Upon the re-establishment of her health she bore children, and in two instances was delivered by my friend and colleague, Professor F. Bache. I mention these circumstances in order to shew that the extremest degree of inversion—none could be more complete—is not necessarily the cause of lesions in the ovaries, tubes, and other organs connected with reproduction, so great as to deprive them ever afterwards of the reproductive power. Dr. Meigs relates another case in which he and other medical men examined a woman who had been the subject of an inversion of the womb for two years. They all agreed that the case was one of inversion, and the attempts made by himself and them, to reposit the organ, were without success. Nevertheless, some four years after this, she became pregnant, and miscarried of an embryo of more than three months, under the care of Dr. Warrington, who received the embryo.—*Dr. Meigs.*

PRACTICAL OBSERVATIONS

ON SOME OF THE

# MORE IMPORTANT SPECIAL DISEASES OF THE SKIN.

By John Erichsen, F.R.C.S.
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[Continued from p. 278.]

*Porrigo scutulata* (Willan).—*Trichosis scutulata* (Willis). — *Herpes tonsurans* (Cazenave).

Great as has been the confusion that has reigned in many of the departments of cutaneous pathology, there is none in which it has been more marked than in all that relates to the porrigo scutulata of Willan, Bateman, and Plumbe. By Rayer, Cazenave and Schedel, Gibert, Green, and others, this disease has erroneously been described as a variety of favus. By Alibert it has been confounded with true alopecia, the porrigo decalvans of Willan; and by Baumes with pityriasis, the P. furfurans of the same writer. By Mahon it has been described under the name of "teigne tondante;" by Willis, under that of "trichosis scutulata;" by Cazenave, more recently, as "herpes tonsurans;" and by Gruby, as "rizophyto alopecia."

In my work on the Diseases of the Scalp, I fell into the same error as some of the writers I have just mentioned, describing the disease partly under the denomination of "favus confertus" and partly under that of "alopecia folliculosa." Extended observation has convinced me of the impropriety of confounding it with any of the varieties of favus.

As some of the terms just mentioned convey a very erroneous idea of the disease in question, and as the meaning of some of the others is not very clear, I have thought it better in these observations, notwithstanding my objections to the word porrigo, to adhere to that by which it has been described by Willan, and under which it is most generally known in this country, and which, with the exception of that given it by Dr. Willis, appears to me to be less objectionable than any of the others, and does not, at all events, convey a false idea as to the nature of the affection. The term "herpes tonsurans," under which it has recently been described by Cazenave, is especially unfortunate, misleading the student by causing him to confound it with the true herpetic diseases, a class of affections with which it has no one character in common, and from which it differs most essentially, not only in its elementary forms, but in its causes, progress, and treatment.

It is not the least remarkable feature in the history of the disease under consideration, that although so correctly described by Willan, Bateman, and Plumbe, and so well known to non-professional people as "ringworm," its existence as a distinct and separate affection has, until very recently, been overlooked by every French dermatologist, with the exception of Mahon, who, in his work on the Diseases of the Scalp, published at Paris in 1829, has given a very correct description and faithful representation of this disease. With this exception, the French writers on cutaneous affections have, up to the last five or six years, confounded the porrigo scutulata of Willan with favus, pityriasis, or one or other of the forms of alopecia. In No. 2 of the "Annales des Maladies de la Peau," Sept. 1843, Cazenave speaks of it as being to him a new disease; and from the statement made by him in that journal, it appears that as late as the year 1840 he was unacquainted with its true nature. At this period his attention was directed to it in consequence of its having made its appearance in a school at Paris; when, as he could not promise a speedy cure, and as he confessed that it was a disease as yet but little known to him, his assistance was dispensed with, and the affected children were placed under the care of the Mahons*.

That Cazenave was, in common with the other French writers on cutaneous affections, really unacquainted with the existence of the disease under consideration as a separate and distinct affection up to the time I have mentioned, there can be no doubt, from his own statements contained in the journal to which I have referred; and the only way by which we can account for this ignorance of the distinct and separate existence of such a disease as porrigo scutulata, on the part of the

* Annales des Maladies de la Peau, &c. loc. cit.

French dermatologists, more especially of Cazenave and Gibert, the pupils of Biett, and the physicians of the Hôpital St. Louis, who, without doubt, have more favourable opportunities of studying the various forms of diseases of the skin than any other practitioners in Europe, is on the supposition of the comparative infrequency of this affection in France. For we cannot suppose but that, unless it were of extremely rare occurrence, some cases of it must have attracted the attention of these physicians amongst the thousands of patients that annually pass under their observation at the St. Louis. The probability of its comparative infrequency is strengthened by the testimony of several writers. Thus, the Mahons, who had no less than 39,719 cases of scalp disease under their care between the years 1807 and 1828, only met, out of this large number, with 97 cases of "teigne tondante" (porrigo scutulata); and they state that the infrequency of the occurrence of this affection is so great as hitherto to have caused it to escape the attention of all observers; and further, that the number of individuals who are the subjects of it is so small that they have not been enabled to add to the cases given in their work*.

M. Baumes, the surgeon in chief to the Hôpital de l'Antiquaille at Lyons, and one of the most recent writers on the diseases of the skin in France, states, when referring to the disease in question, that he had only seen three cases of it in the whole course of his practice. How different this is to what occurs in this country, where the porrigo scutulata is, especially in large schools, and in every class of society, a very common form of scalp disease. With us, on the contrary, the true favus (porrigo lupinosa of Willan) is, without exception, the rarest of the porriginous affections; whereas in France it is of very frequent occurrence, as must be in the recollection of every one who has attended the practice of the St. Louis, and as we learn from the statement of the Mahons, who, in twenty-one years, saw more than twenty-nine thousand cases of this disease. This difference in the frequency of closely allied diseases, or of different varieties of the same disease, in different countries, is a point of some interest, and is well illustrated by the infrequency of the occurrence of the true Hunterian chancre in this country; whilst that form of primary syphilis is, or was a few years ago, constantly to be seen at the Venereal Hospital in Paris.

Before passing to the consideration of the diagnosis and treatment of this affection, the very interesting and important researches of Gruby*, which I have lately had several opportunities of verifying, on the essential nature of this disease, should not be left unnoticed.

On examining under the microscope a portion of hair, says Gruby, taken from one of the patches of this disease, we find that its tissue is filled with sporules, which are most generally round, but sometimes oval, transparent, colourless, smooth, and filled apparently by a homogeneous substance. These cryptogami take their origin in the interior of the root of the hair, in the form of a group of rounded sporules, from which beaded filaments gradually develop themselves parallel to the longitudinal axis of the hair, ascending in a straight line.

In proportion as these cryptogami develop themselves in the interior of the hair, this becomes opaque, greyish, and dry, increasing in diameter, but losing its elasticity and cohesion to such a degree that it breaks with the slightest force. Most usually the hairs break off at a distance of two or three lines from the surface of the scalp; the line of fracture is never clean, but always jagged and uneven, leaving a tuft of filaments that resemble closely a camel's-hair brush.

Occasionally the hairs are broken off before leaving the follicle the aperture of which becomes obstructed by indurated sebaceous matter. This sebaceous matter, Gruby remarks, being

* "Although the number of individuals who are the subjects of this disease is so inconsiderable that we have not been able to increase the cases since we first examined it more carefully, and have been compelled to limit to a few remarks our observations on this interesting affection; yet we have not thought it right to pass it over in silence. In future we shall carefully collect all the materials that can throw any additional light on a matter that is so perfectly new as this. We likewise hope that when once the attention of practitioners has been awakened, observations will soon be multiplied, so that the road to a correct acquaintance with it may be rendered less difficult."—(Mahon, sur les Teignes, p. 143.)

* Comptes Rendus de l'Academie des Sciences, April 1844.

pushed forwards by the growth of the hair, forms a small semi-transparent or opalescent elevation, composed of diseased and softened hairs, indurated sebaceous matter and epidemic scales, presenting an appearance that has often been confounded with a vesicle or pustule.

In proportion as the cryptogamic vegetations cease to be developed in the interior of the hairs, these become more and more transparent, less grey, and more resistant, until their normal appearance is completely restored.

The cryptogami that are met with in the porrigo scutulata (tinea tondans, &c.) differ so remarkably from those that occur in the porrigo decalvans (alopecia) in seat, in mode of development, and in their relation to the tissue of the hair, that they cannot be confounded together. The cryptogami of porrigo scutulata are composed solely of large round sporules, arranged side by side like a string of beads. These are situated in the interior of the hair, and usually take their origin in the root, the exterior of the hair being unaffected.

The cryptogami of porrigo decalvans (alopecia), on the contrary, are characterised by having a number of curved or undulating branches, with small sporules, attached to their sides. They are likewise situated on the exterior of the hair, round which they form a complete sheath.

These observations made by Gruby as to the existence of cryptogamic vegetations, in this disease, indicate not only the probable reason of its extreme contagiousness, but likewise prove that it is neither a pustular nor a vesicular affection, pustules, or vesicles, if occurring at all, being merely accidental complications; hence the impropriety of the name "herpes tonsurans" lately given to it by Cazenave.

The occurrence of this disease in families is always productive of much annoyance and distress, and the practitioner is usually required at once, without much time for reflection, to decide whether a case be one of true porrigo scutulata or not. It is therefore of importance that its diagnosis should be readily effected, so that it may be recognized in its earliest stages, and the means that are necessary to arrest its further progress, or its communication to others, be adopted.

The only diseases with which porrigo scutulata can readily be confounded are favus, alopecia, and pityriasis of the scalp, and from these, with a little attention, its diagnosis is by no means difficult.

Before proceeding to the consideration of the characters that distinguish true ringworm, porrigo scutulata, from the other diseases which have been mentioned, I have one remark to make which will prevent any confusion. It is, that under no circumstances is there ever, in porrigo scutulata, any appearance of vesicles or pustules, except as the results of accidental irritation, frequently the consequence of the improper use of stimulating applications. I have over and over again examined most carefully patches of this disease in their earlier stages, when they did not exceed a few lines in diameter, as well as at a more advanced period, when several inches in circumference, and have never succeeded in detecting any appearance of vesicle or pustule, for which, I believe, with Gruby, that indurated sebaceous matter and epidermic scales have often been mistaken. Had this point been properly attended to, we should have had less misconception about the elementary characters of porrigo scutulata; and I believe that much of the confusion that has arisen is owing to the statement made by Willan, and adopted without investigation by most, if not all, of the later writers on the diseases if the skin, that this affection is, in its earlier stages, pustular. That Willan actually mistook for pustules some indurated sebaceous matter, or epidermic scales, is, I think, rendered very probable by an examination of Plate II. in his Treatise on Porrigo. In this plate the patches are represented as being studded with irregular yellowish scales; but the artist has not delineated anything that can be construed into the likeness of a pustule. Cazenave has lately, in the "Annales des Maladies de la Peau," promulgated a similar error, by describing the disease as characterized by small vesicles, which dry almost immediately after their formation. From repeated and careful observations of many cases of this affection, I feel persuaded that he is in error, that there is never any appearance of vesicle or pustule except as the result of undue

irritation, or of accidental concomitant or consecutive eczema, or impetigo, and that Gruby is correct in describing the disease as being characterised by the presence of circular patches covered with a dry, mealy, white powder, and attended by a breaking short of the hairs; as being, indeed, a perfectly dry disease.

As has already been stated, the diagnosis of porrigo scutulata from other affections of the scalp is not by any means merely a matter of dermatological curiosity, but, on account of the rapidity with which it is often communicated in schools and other large assemblages of children, one of direct practical importance. Of the extreme rapidity with which this disease may spread, in defiance of every precaution taken to prevent it, I saw, in consultation with Mr. Byles, a good example last spring in a school belonging to one of the City companies. In the establishment referred to, which contained about ninety boys, and in which every possible attention was paid to the health and cleanliness of the inmates by the officers of the Institution, the first case appeared on the 21st February. The patient was immediately sent away. On the 7th of March the disease declared itself in six boys, all of whom were immediately sent home. During the two following days it made its appearance in nineteen. On the 10th March, when I was first consulted, nineteen boys were found to be labouring under the disease, and in four its presence was doubtful. On the following day, eight or nine fresh cases were reported. After this, in consequence of the means that were had recourse to by the very intelligent surgeon to the school, the further progress of the disease was checked.

Porrigo scutulata, then, makes its appearance in the form of a small circular patch, of a tolerably regular form, distinctly raised towards the margin by an accumulation of epidermic scales. The hairs covering the patch are thinned, irregular, and loose, being readily detached when pulled upon; after a time they break off at a short distance from the scalp. There is usually a good deal of itching and irritation about the affected spot. On the head being shaved, the patch will present a slightly red and inflamed papulated appearance. The disease is, in this stage, perfectly dry, and presents no appearance whatever of vesicle or pustule. If, however, it be much irritated, it will lose this simple circumscribed form, and will put on a much more inveterate character. The scalp will become glazed, red, inflamed, and covered with loose epidermic scales; it will be denuded of hair, and may become studded with impetiginous pustules, containing a thick, glutinous, yellow matter. These pustules never make their appearance but at an advanced stage of the disease, as a secondary affection, usually the result of the irritation to which the scalp has been subjected: many cases run their course without any appearing.

At the same time that the disease presents this character on the scalp, it is very common to notice similar circular, red, scurfy patches on the forehead, neck, temples, back, and arms. These have been confounded by Bateman and others with herpes circinnatus, and have consequently been supposed to differ from the true contagious ringworm of the scalp. Their real character was, however, long ago pointed out by Plumbe, who showed clearly that they were precisely of the same nature as the patches affecting the scalp, "the apparent difference being solely the result of the mischievous influence of the hair," and who, in proof of this, relates the case of a lady, "who from two of the circular spots on the arm inoculated one of her children with the genuine ringworm of the scalp, the disease afterwards affecting several other children of the same family." The precise converse of this has very recently fallen under my notice in the case of a lady who contracted one of these "circular red scurfy blotches" on the back of the hand from a relative who was labouring under true porrigo scutulata of the scalp.

If the characters that have just been given as distinctive of porrigo scutulata be borne in mind, its diagnosis from favus, the porrigo lupinosa of Willan, will not be attended with much difficulty.

In favus there are always, even in the earlier stages, a number of circular, cupped, yellow, or yellowish-grey incrustations; at first small, but after a time acquiring a larger size, and always traversed by a hair. These

crusts are always most distinct, and cannot be confounded with the patches of porrigo scutulata, on which, as it has already been stated, there are no incrustations. Favus, likewise, is an exceedingly rare disease in this country, whilst porrigo scutulata is of common occurrence. With alopecia circumscripta, the porrigo decalvans of Willan, there is perhaps more danger of confounding the disease now under consideration. The smooth irregularly-shaped perfectly bald patches of the one may, however, be readily enough distinguished from the circular spots, covered with broken hairs and white powdery scales, of the other affection. From ptyriasis the diagnosis of porrigo scutulata is likewise very easy, there being no tendency in the former disease to a breaking short of the hairs, or for any baldness, even of a temporary character, to result.

In no disease of the skin is the treatment, in most instances, attended by less satisfactory results, and in none is greater patience required by the medical attendant, than in porrigo scutulata. To this general statement there are, of course, many exceptions; but as a general rule it will be confirmed by the experience of every medical man.

The treatment of porrigo scutulata is of two kinds, varying essentially both as to the end that we wish to obtain, and the stage of the disease; the object of the first kind of treatment being to arrest the disease at once in its earlier stages, that of the other being to modify the action of the integument, where the disease has become chronic, in such a way as to enable it to revert to a healthy condition.

The following is the plan that I am in the habit of having recourse to, and that will, I think, in most instances, be found to be successful.

The first thing to be done, when a child is found to be affected with one or more patches of porrigo scutulata, is to shave the head without delay, in order that the extent of disease may be known, and that it may be more conveniently brought within reach of proper treatment. The diseased patches should then be touched with one or other of the stronger acids, so as if possible to cut the affection short at its very outset. Plumbe preferred the sulphuric acid, and this is no doubt a very excellent application when used lightly, and with moderate care, by means of a feather, as he recommends. I have given both the sulphuric and nitric acids a trial, but prefer in general the concentrated acetic acid, as originally recommended by Dr. Wigan (Medical Gazette, vol. ii. 1842-43, p. 864). Before having recourse to this it will be well to follow the very excellent advice given by that gentleman of *testing* the shaven scalp by washing it with a lotion composed of one part of the strong acetic acid to three of water; in this way a number of spots, which would otherwise have been overlooked, may be detected by their becoming reddened. The concentrated acetic acid should then be applied for a few minutes to each spot, as recommended by Dr. Wigan, by means of a piece of sponge tied to the end of a stick, or held by a pair of forceps. Used in this way the acetic acid is a more manageable and agreeable preparation than the sulphuric or nitric; possessing the additional recommendation of dissolving the cuticle, and thus readily coming into contact with the subjacent diseased parts. The mineral acids, on the contrary, char and harden the cuticle, and do not penetrate to a proper depth, unless they be applied so freely as to give rise to danger of proving a slough. The acetic acid applied thus occasions pretty severe smarting and burning, which lasts for a few minutes; this is followed by reddening of the part that has been touched, the diseased cuticle becoming opaque and whitened, or raised up into small vesications. After the patches have been freely and effectually touched nothing more should be done to them for a week or ten days. When the crust that has been produced by the action of the acetic acid upon the epidermic scales, diseased hairs, &c. has been raised off the scalp by the growth of new and probably healthy hair; this should then be removed, as Dr. Wigan recommends, by means of a pair of fine scissors, and the subjacent integuments carefully examined by means of a lens. After having been well washed with soap and water, should there be any appearance of disease still existing, the acid must be reapplied. Should the part present a healthy appearance, or be merely reddened in

consequence of the irritation that had been set up in it by the acid, nothing will be required beyond simple ablution with tepid soap and water, and the application of a little olive oil every night. Before pronouncing the disease to be effectually eradicated the surgeon should never omit to examine carefully under the microscope some of the newly-formed hairs growing from the patch that had been affected, in order to ascertain whether they contain the characteristic sporules, or vegetable organisms, that have been described in an early part of this paper. This rule should never be departed from, as it is impossible to pronounce a patient cured until this point be ascertained; and the application of the acid should be continued until the hair when removed, or the cuticle when scraped off, no longer presents, when subjected to the microscope, any of the appearances that are so characteristic of this disease. Indeed, when once acquainted with the true nature of porrigo scutulata, the rationale of the beneficial action of the stronger acids becomes obvious, consisting simply in the destruction of those vegetations that are the essential cause of the disease, and which, unless destroyed by the application of a powerful caustic, may keep it up for an indefinite period. This consideration will explain the almost invariable failure of merely stimulating applications, such as irritating ointments, hellebore, savine, elemi, pitch plaisters, &c., which can exercise no destructive influence on the morbid growths that essentially constitute the disease.

After the acid has been continued until the whole of the vegetable organisms have been destroyed, and not till then, we may have recourse to such applications as will stimulate the integuments to a more healthy action, and thus prevent the reproduction of the disease. Amongst these I have generally found the most useful to be either the creosote ointment in the proportion of ʒss. or ʒj. of the creosote to an ounce of lard, or the Tincture of Iodine applied by means of a camel's hair brush. The Unguent. Hydrarg. Biniodid. diluted with six parts of the Unguent. Picis liquid, or a mixture of equal parts of Sulphur and Pitch ointment; or the Carb. of Potass ointment in the proportion of from ʒss. c. ʒj. of the salt to the ounce of lead, are also frequently very serviceable. Whichever of these applications be employed, and an alternation of them is perhaps the most useful, the parts should be well washed three or four times a day with a lotion of the Sulphuret of Potass dissolved in lime water, either alone or in combination with the carbonate of the same alkali, or with soft soap.

At the same time that these local means are being employed, the general health must be carefully attended to. If the affected child be, as is frequently the case, of a lax fibre, pale complexion, a delicate and perhaps scrofulous habit of body, he should be put on a nutritious diet, and a mild corroborative plan of treatment. In chronic cases, the iodide, the citrate, or ammonio-chloride of iron, or the citrate of iron and quinine, either alone or in combination with infusion of quassia; or the infusion of calumbo, with carbonate of soda, or Brandish's alkaline solution, will be found of especial service, and will materially hasten the cure. The cod-liver oil has been strongly recommended in these cases. I have on several occasions given it a trial, but have always been disappointed by it. It certainly appears to possess the property of fattening children rapidly, but does not, I think, in general give any increase of tone to the system. It is highly necessary that the diet should be carefully attended to, all heating and especially salted articles of food being carefully avoided, and the child put on a nutritious but plain regimen.

The great importance of attending strictly, in a local affection such as porrigo scutulata, to all circumstances that may influence the general health of the patient, is rendered evident by the fact of the longer persistence of this disease in individuals of a weak and debilitated, than in those of a strong and robust habit of body. Nothing is more common than to see in the same family, under the same treatment and the same circumstances, the disease continuing obstinately for a very much longer period in the children that are delicate or sickly, than in those that are stronger and in better general health, or to see the affection return under the influence of any cause that interferes with the general

health or lessens the powers of the system.

It by no means uncommonly happens that a few weeks after the porrigo scutulata has been cured, an impetiginous affection makes its appearance on the scalp; this is more especially liable to occur if the child be allowed to take too salt or stimulating a diet, or if in any other way his health be deranged. This affection must be treated in the same way as impetigo of the scalp proceeding from other causes, and will, though in certain constitutions assuming a somewhat intractable character, most generally soon yield to the employment of an emollient or but slightly stimulating local treatment.

[To be continued.]

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IMPRESSION PROCUCED BY POWERFUL ODOURS.

Cromer relates the case of the daughter of Nicholas I., Count of Salin, who died after having inhaled the odour of a rose; in 1774, a woman, in London, was found dead in her bed, in consequence of having breathed the odour of several full-blown lilies that she had placed in a small chamber. Iriller (Clinotechnia Medic, sive de diversis ægrot, lectis, 1774), saw a violet give rise to a distressing accident, under nearly similar circumstances; the emanations from some lilies in blossom very nearly proved fatal to the wife of Saumonier, the distinguished Rouen surgeon; lastly, on the night of the 10th of August, 1837, Madm. ——, the Duchess d'Ab * * *, was upon the point of being asphyxiated from having slept for several hours in her bed-room, where her friends and the admirers of her literary talents had deposited their presents of flowers on the eve of her birth-day.—*M. Colombat de L'Isere.*

*** The construction placed by the narrators upon the above cases is, of course, erroneous; it is true that numerous cases of constitutional antipathy are upon record—thus we are told that Erasmus could not smell fish without being greatly agitated; the Duc d'Epernon would faint at the sight of a leveret; and Boyle fell into convulsions on hearing the sound of water drawn from a cock. The ladies of Rome have a horror of perfumes; and, indeed, similar examples—depending upon association, nervousness, or affectation, are constantly observed; but it is not a little surprising that a pathologist of the present day should believe in these cases of death "in aromatic pain;" in the lethal power of violets, and the asphyxiating qualities of full-blown lilies!—Ed. Gaz.

CASES OF

## MIDWIFERY IN WHICH GALVANISM WAS APPLIED;

WITH REMARKS.

By Thomas Dorrington, Esq.,
Surgeon to the Manchester and Salford Lying-In Hospital.

*Read before the Manchester Medical Society, February* 4, 1846.*

[Concluded from page 945.]

### *Placenta Prævia: Hæmorrhage before and during labour.*

March 8, 1845. Catherine O'Neal, 77, Jersey Street, Great Ancoats Street, æt. 31, is at the eighth month of her fifth pregnancy. About a fortnight ago, when getting up to go to her work, which is that of a doubler in a cotton mill, she began to flood very slightly for the first time, without any obvious cause; she thinks that during the whole of this pregnancy she has had an unusual degree of weight and fulness in the hypogastric region; there was no recurrence of the hæmorrhage till two days ago, when she had another slight sanguineous discharge, with some pain above the pubis, early in the morning. She went, however, to her work, and at 11 A.M. it returned, which circumstance she attributed to her being obliged to put her hands very frequently into cold water, this being necessary in her occupation. She went home and kept quiet, and the flooding went off: the next morning early, on rising from bed, it returned, but again ceased when she lay down; at the end of an hour, when she rose again, it reappeared, and kept recurring at intervals all day. At night she was seen by a midwife, who ordered her to lie down and keep quiet, and to send to me for some medicine. I sent her a draught containing thirty minims of tincture of opium, and ten minims of diluted sulphuric acid, which she took early this morning. The discharge seemed after this to diminish in quantity.

I saw her to-day at half-past 11 A.M. for the first time. The hæmorrhage had obviously not been severe; she was in a good state; there was still a slight draining discharge, and the

* Communicated by the Author.

upper part of the vagina contained some coagula. Upon carefully removing these, I found the os uteri oval in shape, dilated to the size of a penny-piece, tolerably dilatable, and almost entirely filled up by the placenta. I could just feel the membranes anteriorly, and to the left side of the uterine orifice, and I ascertained that they were unruptured, and that the head presented. There had been occasionally slight labour-pains since last night; the fœtal heart was audible just below the umbilicus. I prescribed quiet, and cool regimen.

At half-past 1 P.M. Dr. Radford, Mr. James Kenworthy, and Mr. Runcorn, saw her in consultation with me; there was still a slight draining discharge, and the other circumstances much the same as at my visit earlier in the day. We thought the case a favourable one in which to try the experiment of delivering the child without turning by means of the uterine action induced by galvanism, combined with artificial rupture of the membranes. At a quarter to 2 P.M. we applied the galvanic conductors in the usual way, and good strong uterine contraction set in at once. In about ten minutes I ruptured the membranes with Holmes's stilette, and we continued the use of the galvanism till twenty minutes past 2 P.M., by which time the pains had begun to come on spontaneously at intervals, and the placenta had fallen down to a considerable extent into the vagina; the hæmorrhage was extremely slight. At 3 P.M. we left her, the labour-pains being good and regular, and the fœtal heart still audible. We ordered her to lie on her back, with a little inclination towards the left side, as there was right anterior obliquity of the uterus, and the child's head was a little too much inclined to the left side, and too far forward over the pubis.

At 5 P.M. Dr. Radford and myself returned, and found that very little change had taken place since we left. The uterine action was not so strong as before, and there was no hæmorrhage. We reapplied the galvanism, using a greater power, and Dr. Radford carefully dragged the os uteri into the axis of the vagina, for we thought that the obliquity of the organ prevented the head from entering the pelvis. In an hour there was a decided advance; the head had descended into the brim of the pelvis, and was dilating the os uteri rapidly, and there had been no further flooding. The placenta continued to descend more and more as the labour progressed, preceding the head for some time, and indeed when the child, which was a female, was born, its most depending portion was protruded from the os externum before the head, so that the child passed over the half-detached placenta along the vagina. Of course, as so great a separation of the after-birth had occurred, the child was born dead, though the fœtal heart was audible till half an hour before its birth. The placenta came away immediately after the child, the labour being entirely terminated at twenty-five minutes to 7 P.M. The woman recovered rapidly, and without a bad symptom.

This case, so far as the life of the child was concerned; would probably have terminated in the same way under any plan of treatment, since the placenta would doubtless in any case have become detached to a great extent from the uterus before its birth. These separations, of which Dr. Simpson has collected many instances, in all probability depend upon some peculiarity in the situation of the organ, through which it necessarily becomes detached from the uterus when the child is escaping from its cavity. But so far as the safety of the mother is concerned, it cannot be doubted that much less risk was incurred by the plan adopted, than would have been under the old method of turning, which is an operation of some danger under any circumstances, and of peculiar risk where the placenta is at the os uteri. It is a fact, which was first pointed out to me by my friend Dr. Radford, that uterine phlebitis is more frequent after placenta prævia than any other form of labour, which doubtless depends on the exposure of the orifices of the uterine sinuses to the contusing influences of the child during delivery, and to irritating lochial discharge from the uterus, if it exists afterwards. The former of these sources of danger is unquestionably increased if the hand has to be passed through the os uteri and the child delivered by the feet, and therefore a plan of treatment which will supersede that method has strong claims upon our consideration. The process of delivery in this

case was precisely analogous to that which takes place when such cases terminate without surgical interference; the only difference is, that the uterine action was excited by the galvanism instead of being spontaneous, and the membranes were ruptured at an earlier period than they would have given way if left untouched.

It will require a large experience to determine to what extent the practice we here adopted is capable of superseding delivery by turning, in cases of placenta prævia generally. I am disposed to think that it is applicable in most cases of partial presentation, where the flooding has not been very great, and where it is not going on rapidly at the time when we are called in, provided the os uteri is dilatable; but where we cannot afford to lose any time in sending for the apparatus, and where the discharge is so impetuous as to require checking absolutely and at once, the woman still being in a state capable of bearing the shock of delivery, the old practice is to be adopted without hesitation. We want facts also to show whether those cases where the placenta is planted so completely over the os uteri that the membranes cannot be felt, are as well suited to the galvanic treatment as cases of partial presentation of the placenta, or indeed whether they are suited at all. With regard to the extreme cases of exhaustion from flooding where the woman is utterly incapable of sustaining the process of delivery, Mr. Kinder Wood's plan of detaching the entire placenta should be adopted, the liquor amnii having been first drawn off by Dr. Radford's stilette. When delivery is subsequently effected, the galvanism is very likely to be of service; but as yet, I am not aware that it has been tried. Whilst on this subject I may perhaps be permitted to observe, that I think that the practice of detaching the placenta before delivery in cases of placenta prævia has been advocated rather generally by Dr. Simpson, and that the consequence will be, that those who follow his advice, will lose, should I not say, destroy, a certain number of children that might have been saved on the old method. It is very probable, too, that the risk of uterine phlebitis may prove greater in forcible detachment of the entire placenta than in turning after detaching it partially.*

*Twins:—Uterine Inertia with the second child.*

November 25th, 1844. — Nancy Crook, 15, Simpson's Buildings, Adelphi, Salford, aged 39, was in labour of twins. The first child, which was a boy, and presented with the head, was born alive four hours and a half after the beginning of labour; it was small, as the mother was only at the seventh month of pregnancy. For an hour after its birth there were no labour-pains, but at the end of that time they came on, though they were extremely feeble and infrequent. I was sent for by the midwife of the Lying-in Hospital, who was in attendance, and saw her about four hours and a half after the birth of the first child. The woman was in a good state; the membranes of the second child were unruptured; the pains were so feeble as to have little or no effect on the amniotic sac, and there was an interval of from twenty minutes to half an hour between each pain. I considered it a good opportunity to ascertain the value of Dr. Radford's galvanic plan in renewing uterine action, so I made the necessary arrangements. In about an hour, Dr. Radford and myself, in the presence of my friend, Mr. Nursaw, and my pupil, Mr. William Black, proceeded to apply the remedy. The effect was immediate; strong labour-pains coming on, and continuing whilst the galvanic circle was complete. The woman cried out that she had pain similar to what she supposed might be produced by "forks being thrust into her belly." On examining, per vaginam, the membranes were found to be tense and protruding into the passage, and the os uteri was fully dilated. After the galvanic circle was broken, and the intervallic contraction thereby induced had gone off, it was remarkable to observe that so great a degree of tonic

* I cannot subscribe to the correctness of Dr. Simpson's views, in proposing this plan of practice where the os uteri is in too rigid or undilatable a state to allow of turning, or where the cervix uteri is yet undeveloped, owing to the early period of pregnancy. I suspect that, under such circumstances, we should cause serious lacerations of these parts at the time, and such contusions as might afterwards lead to very grave consequences in the shape of hysteritis, uterine phlebitis, or hypertrophy and ulceration of the os uteri.

uterine action existed, that the amniotic bag could no longer collapse, but remained tense in the vagina, as it does at the height of a pain in normal labour. In the course of about half an hour the intervallic uterine action was so completely excited that we ceased to apply the galvanism; and during a pain, Dr. Radford ruptured the membranes, when the foot was found presenting. I now took charge of the case, and in about a quarter of an hour, with the assistance of slight traction, a very small female child was born alive. We applied a few slight galvanic shocks to its chest, as the respiration was feeble, with a very good effect. The placenta, which was single, came away in about twenty minutes, with less discharge than is usual in twin cases.

The mother recovered well and rapidly; but the second child, which was extremely puny at birth, died of convulsions in four or five days.

This case would probably have terminated by using the ordinary means, viz., abdominal friction and pressure, artificial rupture of the membranes, or the use of the ergot. It was, however, thought to be a favourable opportunity of testing the power of galvanism in cases of uterine inertia, Dr. Radford having suggested its use in similar cases in his lecture. It answered perfectly, but I should not myself have recourse to it again in such cases, till I had tried milder methods, because it is unquestionably very disagreeable and painful to the patient. I am of opinion that, under most circumstances, the ergot should be tried in uterine inertia in preference to the galvanism, but where the os uteri and soft parts are rigid, or where the circulation in the child is feeble, as indicated by auscultation, the latter is to be preferred: and for this reason, that you can perfectly regulate its effects, whilst you cannot those of the ergot. Of course, in many cases, abdominal frictions and pressure, and the artificial rupture of the membranes, where the os uteri is in a state to justify it, are sufficient to induce uterine action, without the use either of ergot or galvanism.

I am aware that some obstetricians object to interfering at all in a case like this, and unless some accident arises to demand delivery, will wait hours or even days between the birth of the first and second child in twin cases, trusting to the spontaneous return of uterine action. I have, however, met with cases which have convinced me that such a course, as a general rule, is fraught with much risk both to the mother and child. This risk arises from the greater liability that exists in double pregnancy to hæmorrhage after labour, which is frequently internal, and of a most insidious character. It takes place so gradually that we are not aware of its existence till the woman is in a perilous condition, and then forced delivery of the second child becomes absolutely necessary. How dangerous delivery is under such circumstances I need not remind the members of this Society. Further, I have seen the second child born dead after protraction of this sort without any obvious cause, leading one to suppose that in some cases a change takes place in the placental circulation after the birth of the first child, which, if allowed to go on for some hours, terminates in the death of the second. More than this, undue delay, where you have nothing to gain thereby—and I am not aware that any advantage can accrue from it in such cases—is to be deprecated on account of the anxious suspense in which it keeps the surgeon, and the serious moral effect it must necessarily have on the patient.

### *Induction of premature labour by galvanism.*

Jane Ward, aged 23, was pregnant of her second child. In a previous labour, owing to contraction of the outlet of the pelvis, I delivered her by means of the perforator and crotchet, in consultation with my colleague, Mr. Golland. The diminution in the transverse diameter of the outlet of the pelvis being only about from half to three-quarters of an inch, I allowed her to go on to the eighth month. Dr. Radford, Mr. Stephens, and myself, had then a consultation upon her case, and it was agreed that I should endeavour to induce premature labour by means of a sponge tent introduced into the os uteri, and if this failed, by means of galvanism. Accordingly, in the presence of the above-named gentlemen, on the 28th of March, 1845, I introduced a sponge tent; but as it did not expand, owing to its being

badly made, I withdrew it on the 31st, no effect having been produced.

On the 1st of April, 1845, in the presence of Dr. Radford, Messrs. Hunt, Stephens, Runcorn, and my pupil, Mr. W. Black, I applied the galvanism for about twenty minutes, with occasional intermissions. The uterus hardened under the application, and she felt labour-pain, but this lasted only whilst the galvanic currents and shocks were given.

In about eight hours and a half after the use of this agent, the membranes ruptured, little or no dilatation of the os uteri having occurred.

April 3d.—About forty-eight hours after the application of the galvanism I made a vaginal examination, but there was no dilatation of the os uteri. On making an abdominal exploration I discovered the head of the child at the fundus uteri. In about three hours after I saw her, labour came on, and the child presented with the breech. The case went on well so far as regards the action of the uterus, but the child was born dead after a labour of about nine hours' duration. Mrs. Mills, an experienced midwife, who had charge of the case, informed me that she examined the funis as soon as it came within reach, but she could detect no pulsation in it. I examined the infant and found the face purple from congestion, and the nates and scrotum much ecchymosed. The placenta came away in an hour after the birth of the child.

The woman suffered from a severe attack of menorrhagia about twelve days after the birth of the child, which yielded to ordinary treatment and the use of the plug.

The results of the application of galvanism in this case were more unsatisfactory than in any of the others. Indeed, I do not think that it induced labour *directly*, after all. This was the direct consequence of the rupture of the membranes, which, however, was doubtless caused by the tonic contraction of the uterus induced by the galvanism; I say tonic contraction, because she experienced no pain previous to the discharge of the liquor amnii,—so that, probably, had the membranes been strong enough to resist the pressure to which they were subjected, and this might easily have been the case, sufficient uterine action would not have been excited by galvanism to establish labour. The galvanism failed, too, in the object for which it was chosen, viz. the induction of labour, so gradually and in so similar a manner to that in which it comes on spontaneously, that the membranes might remain unruptured until full, or, at any rate, considerable dilatation of the os uteri had taken place. We must admit that the ordinary method of bringing on premature labour by rupturing the membranes is open to objection, on the score of the difficulties which an early discharge of the liquor amnii may cause if the presentation is preternatural; and that such is more likely to be the case in a premature than in an ordinary labour Dr. Merriman has satisfactorily shown. The use of the sponge tent and galvanism were both supposed by Dr. Radford and myself to offer the chance of avoiding the accident above alluded to, but so far as this case is concerned our expectations were not fulfilled. If further experience should afford more satisfactory results in this particular, galvanism will have a decided advantage in these cases over the old method; but should it not do so, I should far prefer the artificial rupture of the membranes, both on account of its greater simplicity and its perfect freedom from pain or distress to the patient.

Of course, after so few trials as have yet been made with galvanism in the practice of midwifery, it is very difficult to form an opinion as to its exact value, and the particular cases in which it is likely to supersede means that have been previously adopted. That it is a powerful remedy there can be no doubt in the minds of those who have seen it tried, and that the uterus will respond to its application, whilst the general system is completely prostrated, is equally certain. This latter circumstance is one of its peculiar merits, as I believe that there is no other means by which we excite uterine contraction that is not liable to fail when severe hæmorrhage has weakened the vital powers. But the pain and disagreeable sensations produced by the galvanic shocks and currents when passed through the uterus are such as one would not wish to subject a patient to unnecessarily, and this is one of its disadvantages.

For this reason I think that we are bound to try other means before having recourse to it, excepting such circumstances exist as render it hazardous to the mother or child to lose any time. Thus, supposing we have a case of uterine inertia, we should try frictions, pressure, and cold to the abdomen, rupturing the membranes if justifiable, and even the ergot, in most cases before having recourse to galvanism. But if we should have uterine inertia, complicated with funis presentation, the funis pulsating well, and the passages in a favourable state, a case by no means uncommon, we should lose no time in applying galvanism, inasmuch as the only chance for the child consists in a rapid delivery, which, indeed, might still require the forceps for its accomplishment. I believe it to be a perfectly safe remedy, since I have never seen any thing to lead me to suppose that either the mother or child have suffered from its use.

From the little I have seen my opinion is that it is a most valuable means in that class of cases for which Dr. Radford first recommended it, viz. uterine hæmorrhage before, during, and after labour, in the latter months of pregnancy; and it must always be remembered that its application need not, in any way, lead us to neglect the ordinary methods of treating these cases, if there is any reason for giving them a previous trial. Of course from this statement must be excepted the old plan of delivering the child where great exhaustion of the mother is present, to supersede which practice, galvanism was specially brought forward.

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### PULSE IN ICTERUS.

According to M. Bouillaud, the pulse of persons suffering from icterus is remarkably slow. A patient in the wards of M. Blandin, (Hôtel Dieu), had undergone, in the month of November, an operation for the amputation of the fifth toe and a portion of the corresponding metatarsal bone. The wound was almost immediately cicatrised, when the patient was, without known cause, suddenly seized with icterus. His pulse was scarcely 40 to 41 in a minute. The patient was strong and robust.—*Annales de Thérapeutique*, and *Phil. Med. Examiner.*

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# MEDICAL GAZETTE.

FRIDAY, JUNE 19, 1846.

The most important question in the correspondence on the subject of the Eclair is undoubtedly that which relates to the contagious or non-contagious nature of the fever, which this vessel is alleged to have brought from the coast of Africa. On this point the Superintendent-General of Quarantine, Sir W. Pym, and the Director-General of the Medical Department of the Navy, Sir W. Burnett, entertain directly opposite opinions; and it may be easily conceived, therefore, that the Lords of the Admiralty have felt exceedingly embarrassed in laying down rules for the commanders of vessels on the African station, or in advising or sanctioning a departure from any of the Quarantine regulations now in force. The question at issue involves many important questions: thus it not merely includes the possible importation of a very fatal and unmanageable disease into our own country, but the entire prohibition of commercial intercourse with other European states. The fact that *we* are satisfied with certain medical theories on the subject, by no means binds other countries to join in our views; and we should very soon find that by prematurely laying aside our own Quarantine laws, we should only be adding to the rigorous and universal application of those restrictions which the non-contagionist party already complain of as a great bar to commercial intercourse. The House of Commons has already, and very properly, sanctioned the principle of a relaxation of these laws; but the Government must go beyond this, before it undertakes their abolition: it must be prepared to show, to the satisfaction of all European countries, that there are no

grounds for maintaining them, or a reform of our own system will only be productive of greater injury than that which already exists.

Thus, to take the case of the Eclair, we find from this correspondence that, on the intelligence of the arrival of this vessel in England reaching Naples, all English vessels were immediately required to undergo a severe quarantine, those coming from parts between Portland and Dover being absolutely excluded! The British Ministerattempted to effect some mitigation of this order,—a representation having been made that, owing to the sanitary restrictions imposed, the fever had not spread; but this was of no avail. Without entering into the question of the influence of miasmata, the use of ardent spirits, moral influences, &c. in the production of the disease, or whether it was a river or coast fever—a simple remittent or a bilious remittent — the Neapolitan Council, on the 25th of October last, came at once to the practical conclusion at which non-professional men would arrive; namely, "that, whatever may be the case, it is certain that the disorder must be a most extraordinary one, with which the 'Eclair' is infected, if it has produced so many lamentable results; and so much the more extraordinary, as other vessels which have held the same course as the Eclair upon the same coasts of Africa have not contracted any disease."* The Neapolitan Government, whether rightly or wrongly, were disposed to deal with this as a peculiar case; and it is pretty evident that, had not Quarantine restrictions with respect to this vessel been carried out by our Government, the injurious effects to British commerce—setting aside the risk to public health—would have been still greater than they were.

It is impossible not to commend the fair and candid spirit which has been manifested by our Government in publishing, as it has done, the whole of the correspondence connected with the disease which prevailed in this ill-fated vessel. It will show to foreign countries that there is no desire to conceal facts, or to give a false colouring to events which appear to militate against the present feeling to abolish the laws of quarantine; and although the result to our minds leaves it certain that these laws, in a mitigated form, cannot be dispensed with, yet it is satisfactory to meet with a clear case, in which facts and medical theories on the subject of contagion can be fairly contrasted.

No later than the 16th of May, 1846, a motion was made in the House of Commons on the Quarantine laws by Dr. Bowring. This gentleman, not being then informed of the facts which have since come to light, argued, with respect to the disease in the Eclair, basing his argument on the views of Dr. M'William, that there was not the slightest evidence that the disease was communicated from one person to another, thereby assuming that all fevers acquired on the African *coast* must possess precisely the same characters as the fever observed by Dr. M'William on the African *rivers*. He further contended that, "Had they (the crew of the Eclair), been removed from the focus of contagion, *there would have been no danger whatever to others*, and he believed many valuable lives would have been saved." Another member thought "that the abolition of these (the Quarantine) laws would be a step not only in humanity, but towards free trade;" and Mr. Mackinnon declared that if the Quarantine regulations had not been in existence, he sincerely believed that one-half of the persons who

* "Che comumque però fosse certo che un morbo tutto straordinario deve esser quello di cui è infettato 'l' Eclair,' sè tanti tristi effetti ha prodotto, e tanto più straordinario in quanto che gli altri legni che han tenuto la stessa rotta, che l' Eclair, non han contratto alcun morbo."

perished in the Eclair, would have been saved!"

This is the commercial view of the question—a view which, for the sake of freedom of trade, leads its advocates to propose not merely the removal of abuses, but the entire abolition of a system which civilized countries have set up as a safeguard against the importation of disease. Unfortunately for the arguments thus employed, they are entirely opposed to the facts contained in this correspondence. While Dr. M'William's remarks on the absence of contagion apply to the *river* fever, Dr. Bowring refers them to a fever contracted on the *coast*, differing completely in symptoms from that described by Dr. M'William, especially in the absence of one which is characteristic of the most aggravated form of the malady; namely, "black vomit." Mr. Rendall's letter, published in our last number,* will suffice to show whether there would or would not have been danger to others by the disposal of the crew of the Eclair in any other way than that adopted under the directions of Sir W. Pym and Mr. Arnott. The same answer may be returned to Mr. Mackinnon's declaration, that, "if the Quarantine regulations had not been in existence, he sincerely believed that one-half the persons who perished in the Eclair would have been saved." The correspondence shows that the number of deaths after the arrival of this vessel and her being placed in Quarantine was only *five*. It also proves that the number of deaths from fever which had occurred at Bona Vista, where this vessel had *not* been placed under any Quarantine restrictions, amounted, up to the last date, March 9th, to no less than *four hundred!* We are, therefore, disposed to draw a conclusion the converse of that at which this gentleman has arrived; and to express our firm belief, from the report before us, that, had the Portuguese Governor of Bona Vista adopted the Quarantine restrictions resorted to in this country, not one-half only, but probably the whole of the four hundred individuals who have fallen victims to the fever in that island, would have been now living. Mr. Macaulay, a resident on the island, in his official correspondence with the Earl of Aberdeen, says, in relation to this subject,—

"One thing is quite clear, that the medical officers of the Eclair, who had never previously served on the African station, misunderstood the malady which prevailed on board their ship, declaring from first to last that it was nothing but the common coast fever—an opinion which, whilst it unhappily obtained the unequivocal concurrence of the only Portuguese doctor in the island, received also the tacit assent, if not the unreserved approval, of the only English doctor.

"Assured, by the concurrent testimony of all the medical men to whom reference could be made, both ashore and afloat, it is not surprising that the Governor-General should have permitted the intercourse between the ship and the shore to continue. As an unprofessional man, he could not be expected to see cause for alarm and precaution, where none was thought necessary by the doctors." Page 39.

Dr. Bowring lately stated in Parliament, that "he had seen again and again that a crew, arriving in perfect health, had perished from being delivered over to the tender mercies of the sanitary laws." He may now, we think, fairly add to his experience by a perusal of this correspondence, in observing what are the effects of delivering over the crew of a vessel affected with a suspicious disease to the tender mercies of commercial theorists! The question is, not as Dr. Bowring puts it, whether the *healthy* crews of vessels are to be subjected to vexatious restrictions of intercourse,—but whether those crews which are not healthy are,

* Page 1042.

for the sake of freedom of trade, to become the means of spreading a most fatal malady throughout a healthy community. Is it better to cut off intercourse with the crew of a vessel affected with disease, or to run the risk of multiplying the mortality a hundredfold among the community because the present Quarantine system is open to abuse? A man must be singularly infected with the doctrines of free trade, and singularly ignorant of the nature and progress of contagious diseases, who can hesitate in deciding between these alternatives. The commercial party are, however, fully aware of this difficulty to the practical application of their views; they, therefore, adopt the opinion that the disease, whatever it may be, is not contagious, and they seek to explain its diffusion by reference to all sorts of contingent circumstances,—the state of the thermometer, barometer, malaria, decomposed bilge-water, mental depression, the use of ardent spirits, &c. We do not deny the influence of these causes in aiding the diffusion and increasing the mortality of fever; but we deny that they suffice to explain how it happened that, in spite of the removal of the crew at Bona Vista, and in spite of the thorough-overhauling, whitewashing, fumigation, cooling, and watering of the vessel, the Eclair should still, when off our coast, and after having sailed over nearly 2000 miles of sea, become a source of infection and a direct cause of death to several persons who were permitted to have intercourse with the ship. This may be explained either by contagion existing in the ship itself or in the crew—we care not which. The bare fact still remains,—a most fatal malady, identical with that which prevails and is endemic on the coast of Africa, was brought close to our shores, and proved rapidly fatal to some who had not been exposed to these peculiar thermometrical and barometrical changes, malaria, the vapour of bilge-water, &c. &c. It is an event of this kind which nations dread, and to prevent which Quarantine restrictions are established. That these sometimes fail to keep out disease, that they are most expensive to maintain, that they are great burthens on commerce, and that they are turned to vexatious uses by despotic states, are circumstances which, with the evidence from this correspondence before us, fail to furnish sufficient ground for their entire abolition.

We shall reserve our examination of the conflicting views entertained by Sir W. Burnett and Sir W. Pym, on the nature of the fever which prevailed in the Eclair, for a future number.

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On Friday evening last Sir James Graham, in answering a question put to him in the House of Commons, on the cases of poisoning in Norfolk, "took occasion to remark on the infrequency of Coroners' Inquests in many parts of the country:—

"There was reason to believe that in the county of Norfolk no fewer than twenty persons had died from poison administered by one individual, and *in none of these cases* had an inquest been held. The law was, that any person having reason to believe that a death had occurred under *suspicious circumstances* was entitled to call upon the coroner of the district to hold an inquest. Within the last few years, however, an indisposition had arisen to pay the charges connected with coroner's inquests, and the consequence had been, that inquests had not been held in many cases where, according to the law of the country, they ought to have been held. The magistrates of the county of Devon had even gone the length of coming to the resolution not to pay the costs of any coroner's inquest where the verdict was 'Died by the Visitation of God.' This resolution had a most injurious effect in preventing inquests in many cases where they ought to have been held."

In reference to this statement, we have to remark that, in our view, the

evils complained of are not so much due to the neglect to hold inquests, as to the very imperfect manner in which they are conducted in various parts of the country. Thus it is strange that the Home Minister should be so imperfectly informed in a matter of this kind, as to assert that no fewer than twenty persons had died from poison in Norfolk, administered by one individual, and in *none of these cases* had an inquest been held! We have now before us a report of the adjourned investigation held at Happisburgh on the 2d of June, when the body of Maria Green was identified as that of a girl who had been buried on the 25th December, 1836; and the mother, Mary Green, deposed that this child, while apparently in good health, died suddenly. An inquest was held upon it; *no post-mortem examination* was made, and a verdict was returned that this child, *now proved to have been poisoned with arsenic*, had died from natural causes! It is not for us to determine whether, under *the very suspicious circumstances* detailed by the mother of the deceased, the coroner or the medical witness was on that occasion to blame;—but the Medical Witnesses' Act* confers upon the coroner the exclusive power of ordering a post-mortem examination; and it punishes the medical witness by leading to the withholding of the fee, if he make the inspection without such an order. Hence, *primâ facie*, the responsibility of passing over this case rests with the coroner; and as we know that every criminal act of poisoning perpetrated with impunity, almost invariably leads to other acts of a similar kind, we shall not be at all surprised to find that twenty cases of poisoning, or even a greater number, have occurred in the same district during the last ten years!

* 6 & 7 Will. IV. c. 89, s. 4.

Taking this report to be correct*, the Home Minister is not only wrong in his statement of the facts, but he refers the cause of the concealed perpetration of these horrid crimes to circumstances, the removal of which could not possibly lead to their diminution or abatement. Of what avail is it, we would ask, to hold a hundred inquests, if they are to be conducted like that on the body of Maria Green in December 1836? Such proceedings do more harm than good: the very fact of inquests being so slovenly conducted, proves to the criminal that he may, by a little precaution, carry on his nefarious practices with perfect impunity.

According to Sir James Graham, any person having reason to believe that a death has occurred under *suspicious circumstances*, may call upon the coroner to hold an inquest. It always rests, however, with the coroner to hold it or not, and we have no information of the number or kind of suspicious circumstances required to induce a coroner to adopt that which, in our view, should be a necessary part of every inquisition—namely, an inspection of the body. It is idle to talk of expense, and of an increase of medical fees from an adoption of this practice. In the Happisburgh cases, the county of Norfolk saved exactly *one guinea* by no inspection having been made in 1836, in the case of Maria Green; and the result has been the loss of (according to Sir James Graham) twenty lives! We dislike to revive discussions that might give pain to individuals; but there have been many cases within the last ten years, in different parts of England, where the holding of an inquest without a post-mortem examination, and the saving of a guinea to the county, has led to a succession of murders by

* Times, June 3d.

poison, clearly developed by the subsequent exhumation of the bodies. It is very true that in many cases an inspection might show nothing more than that the patient had died a natural death; but surely this cannot be balanced against the results above referred to, *i. e.* leaving an open and clear field for the perpetration of a successsion of murders. The Registrar-General's Annual Report for 1841 shews, that out of a large number of cases of sudden death in which inquests were held, the causes of nearly two in three sudden deaths were not stated in the verdicts, a post-mortem examination of the bodies not having been made*. It is quite possible that some cases like the Happisburgh murders may have been among them, and thus overlooked. An inquest held without the proper determination of the *cause* of death, defeats the very object of the office of coroner; and we do not think that Sir James Graham has any reason to complain of the infrequency of inquests (?) as being productive of injurious consequences, when his own Registrar-General proves, that in *sixty-six* per cent. of cases of sudden death, the inquiry leaves the case precisely where it stood! *i. e.* exactly in the position in which the case of Maria Green was left from December 1836 until June 1846!

But we must go a step further than this. It is surely the object of a Minister of State to look to something more than the proper holding of inquests on the bodies of those of the Queen's lieges who have been sent out of the world by poison. Why is poison allowed to be freely sold by every druggist and village shopkeeper, so that enough may be procured for a penny by a Jonathan Balls, to poison twenty or thirty persons? It would surely be better to endeavour to cut off access to such a very easy and insidious method of perpetrating murder than to impute blame to the magistrates of a county for throwing obstacles in the way of holding inquests on the bodies afterwards; but this does not appear to enter into the minds of our legislators. Any restriction on free trade in poisons, although it might place difficulties in the way of those who, from a morbid propensity to crime, or other motives, only require it for the destruction of their fellow-creatures, would be too great an invasion of the privileges of the subject to become a matter for legislation! It is, therefore, considered better to wait until a death has occurred, and then to take the chance of the crime being discovered by the present imperfect mode of holding an inquest on the dead body!

* See Vol. xxxvi. p. 592.

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It is with surprise and regret we learn that Dr. Elliotson has been appointed to deliver the Harveian Oration at the Royal College of Physicians on the 27th inst. Considering the notoriety which the orator elect has acquired as a patron of mesmerism, we should have supposed that a more appropriate selection might have been made. We cannot bring ourselves to believe that the majority of the Fellows concur in the step which has been taken by the College, and we feel confident that it will create great dissatisfaction in the profession.

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### POISONED WOUNDS.

A country practitioner was called upon to attend a poor woman in protracted labour, for whom he had upon a former occasion turned the child; and who now (as a little variety) presented him with a footling case. He incautiously proceeded to give the necessary assistance, without having provided any covering for a small recent cut which he had upon the back part of the right thumb, immediately below the root of the nail. As might be anticipated, he soon felt the ill effects of his rashness, as the child had been dead for some time, and the discharges offensive; the absorption of this fluid gave

smarting pain, even before the delivery had been finished. The hand was carefully washed, and the wound cleaned after it had been exposed to the action of the unhealthy discharge for nearly an hour. On the following morning the wound was surrounded by a small circumscribed, painful, and tender tumor, or swelling, which continued stationary for a week, and then was surmounted by a little clear vesicle, which continued to spread slowly in circles, extending from the wound as a centre. There was little constitutional disturbance, nor were the axillary glands engaged. There was not any tendency to ulceration, or the formation of pus. The increased heat, tenderness, and throbbing pain of the thumb, caused much suffering whilst endeavouring to attend to active professional duties, and as the vesicle continued to extend round the thumb, it was agreed, after nearly three weeks' suffering, to try the application of nitrate of silver to the wound. Accordingly, the elevated cuticle was carefully removed by scissors, and a piece of solid nit. argent. rubbed freely over the denuded surface, and a circle marked with creosote upon the sound skin round the sore, to prevent the extension of the inflammation.

This treatment occasioned six or seven hours of very acute pain, together with constitutional sympathetic suffering, but the morbid action was immediately and permanently checked, so that at the end of eight or ten days the caustic coating came away, leaving a red but perfectly sound surface.

It is a curious fact, that now, a month after the healing of this sore, any deviation from good health, occasioned by loss of rest, anxiety of mind, or from whatever cause it may proceed, will assuredly occasion increased heat, tenderness, and a morbid sensibility in this thumb! Is this the result of a deranged state of the nerves and blood-vessels of this part, continuing after the healing up of the sore? And may we reason from this fact that the nervous and vascular systems continue deranged, or if you will, debilitated, long after recovery from an attack of fever, thus leaving a tendency to relapse into fever, under the influence of any exciting cause?—*Dublin Medical Press.*

### CURE OF HYDROCELE.

Dr. Alfred A. Harvey, of Bristol, has for thirty years successfully employed the following treatment in hydrocele, obtaining a radical cure without injection. His mode of treatment is as follows:—First, discharge the fluid with a trocar, or pocket lancet, and then apply a warm vinegar poultice all over the scrotum, in order to bring on inflammation, which generally takes place in a few hours, and becomes painful. When sufficient inflammation has been excited, remove the vinegar poultice, and apply a bread-and-milk poultice. In a short time the pain and inflammation generally subside, and the cure is completed. Give a few smart doses of purgative medicine.—*Lancet.*

## Reviews.

*On Disorders of the Cerebral Circulation, and on the Connection between Affections of the Brain and Diseases of the Heart.* By George Burrows, M.D., &c. 8vo. pp. 220. London: Longman and Co. 1846.

The extended discussions that have arisen among modern physiologists respecting the laws which regulate the cerebral circulation in health and disease, the remarkable diversity of opinion which has been maintained on this apparently simple subject, and the numerous, though somewhat inconclusive, hints which have been thrown out by recent pathological writers respecting certain connections believed to exist between cerebral and cardiac affections, have certainly rendered a work of research on these subjects a desideratum in medical literature: and we consider that Dr. Burrows' treatise has most satisfactorily fulfilled this object. It has decidedly and clearly resolved many of the questionable points to which we have referred; and, although a portion of the other questions may still be considered as remaining open to argument, their conditions will be found so fairly and amply stated in this work, that any who may feel disposed to investigate them need not hesitate from want of sufficiently conclusive data.

The first section treats of "The Peculiarities of the Circulation in the Brain." The doctrine of Monro, Kellie, Abercrombie, and Clutterbuck, that the brain, under all conditions of the system, invariably contains precisely the same quantity of blood, really appears to have been altogether undeserving of the attention which it received from its propounders and their followers: indeed, Dr. Burrows appears to us to have proved, with the greatest clearness, that it was, in reality, the result of mistaken observation, which might, at any time, have been cor-

rected by a cautious repetition of the experiments upon which it was founded.

The author appears to have been the first to whom the idea occurred of testing the celebrated experiments of Dr. Kellie, and he has discussed that gentleman's chief propositions seriatim, at the same time comparing them with his own observations.

Previously to this, however, he states the remarkable fact, that Dr. Kellie himself did not maintain the theory of "the invariable quantity of blood within the cranium" by any means so strongly as some of his partizans have believed: as he remarked that, "though we cannot entirely or nearly empty the vessels of the brain, as we can the vessels of the other parts of the body, it is yet possible, by profuse hæmorrhage, to drain it of a sensible portion of its red blood. If, instead of bleeding *usque ad mortem*, we were to bleed animals more sparingly but repeatedly, there is no doubt that we should succeed in draining the brain of a much larger quantity of red blood, although serous effusion would be increased." In a subsequent essay, however, he appears to have held more exclusive views.

In opposition to Dr. Kellie's assertion that "a state of bloodlessness is not discovered in the brains of animals which have died by hæmorrhage, but, on the contrary, very commonly a state of venous cerebral congestion," the author states that, in a rabbit which was destroyed by opening the carotid and jugular on one side, the meninges were found pallid, and scarcely the trace of a blood-vessel was to be detected on the surface of the brain. The sinuses were nearly empty, and the interior of the brain appeared equally exsanguined; while, in another rabbit which was strangled, the meningeal vessels and sinuses were discovered full of dark liquid blood; and the whole substance of the brain and its membranes appeared of a dark reddish hue, as if stained by extravasated blood. Hence, he very properly infers that it is not a fallacy, as some suppose, to assert that bleeding diminishes the actual quantity of blood in the cerebral vessels. Dr. Kellie, assuming the cranium to be a perfect sphere, proceeds to show that the quantity of blood in the cerebral vessels is not affected by posture. The author imitated the experiments which led to that inference, but arrived at a very opposite conclusion. He killed two full-grown rabbits by prussic acid, and while their hearts were still pulsating, one was suspended by the ears, the other by the hind legs. They were left in that position for twenty-four hours; and, before they were taken down for examination, a tight ligature was placed round the throat of each animal, to prevent, as effectually as was possible, any further flow of blood to or from the head. In the first, the membranes and substance of the brain were pallid, the sinuses and other vessels were exsanguined, anæmic beyond his expectation. In the second, the membranes and vessels were dark, and turgid with liquid blood; the sinuses gorged, and there was staining of the tissues, if not extravasation of blood into the membranes. The substance of the brain was uniformly dark, and congested to a remarkable extent.

It may, therefore, now be affirmed that the encephalon is not exempt from this law in physics—the gravitation of the fluids to the lowest parts of the corpse.

Although it is true that the brain and its membranes are not necessarily congested in the bodies of those who have died of hanging,—a fact very satisfactorily accounted for in this work,—the author alludes to numerous well-authenticated instances of death from this cause, where the brain and its coverings have presented all the usual appearances of congestion, and even of apoplexy, to a striking extent.

In fact, it may now be considered as proved, that "in the majority of instances where death takes place by strangling, hanging, suffocation, drowning, and other means of causing apnœa, a congestion of the cerebral vessels is found after death."

Dr. Kellie's fourth proposition is, that if there be repletion or depletion of one set of vessels (arteries or veins) in the cranium, there will be an opposite condition of the other set of vessels. Indeed, it has been attempted to prove this by an algebraical equation. In reply to this the author shews that—

"The results of experiments negative this conclusion. The error lies in the false assumption of the elements of which the equation is formed. It is also clear that

there may be variations in the quantity of blood in one set of cerebral vessels without affecting the condition of the others, because the quantity of extra-vascular serum in the cranium will accommodate itself to the varying states of the blood-vessels."

Lastly, Dr. Burrows cites the authorities of various anatomists, from Galen downwards, who have observed unnatural turgescence of the brain and its membranes in the bodies of those who have died from cerebral and other diseases.

We conceive the author's refutation of Dr. Kellie's doctrine to be perfectly demonstrative, and complete throughout; and we take this to be a very remarkable illustration of the danger of receiving, as proved, facts which rest only upon the observation of a single writer*. Of late, many statements and doctrines which were received by successive generations of medical men *auctoritate antiquorum*, have been proved to be altogether fallacious, and it is not improbable that many of the opinions which now prevail may yet be found equally susceptible of disproof.

The second section treats of "Vascular Pressure within the Cranium, and its Influence on the Functions of the Brain." It has been stated that the brain is incompressible, because its substance is principally composed of inelastic fluids; and that hence the momentum of the blood distending the arteries and veins ramifying in the encephalon, cannot act as a cause of pressure within the cranium. The author, however, argues that, in truth, the contents of the cranium, although very incompressible, are highly elastic. It has also been stated, by no less an authority than Dr. Abercrombie, that the brain is incompressible by any force which can be conveyed to it from the heart through the carotid and vertebral arteries. It is, however, evident that "the brain receives an impulse from the shock of the arterial pulse, which causes a heaving upwards, as well as a short quick expansion of its mass, and that afterwards, at the moment of the ventricular diastole, a collapse of the organ ensues. It may also be observed, if the dura mater be exposed, that during the period of expiration, when the free return of venous blood from the brain is impeded, the surface of this membrane is seen to rise; the brain itself swells, and becomes turgid, but again subsides with the succeeding inspiration." Ecker attributes this phenomenon to the ascent of the cerebro-spinal fluid during expiration; but the distending action of the heart upon the brain is also strongly exhibited after accidents where, with loss of a portion of the bones of the cranium, there is also a laceration of the dura mater. Hence the author concludes, that "whatever has a tendency to distend the cerebral vessels, whether arterial or venous, exerts a pressure on the substance of the organ; and if the forces distending the cerebral arteries and veins be diminished while these phenomena are under observation, the movements of the brain, and manifestations of pressure from within, are diminished in the same proportion." The author considers that "syncope is occasioned by insufficient vascular pressure on the brain, and not from the inadequate quantity of blood supplied to the brain and its vessels, as is commonly supposed;" and he accounts for many of the symptoms of disturbance of the brain, upon the hypothesis of an insufficient vascular pressure on the substance of that organ.

The following quotation will afford a sketch of the principal views adduced in this section:—

"On this interesting and important principle of pressure, I have endeavoured to point out that such a force is constantly in operation upon the cerebral substance; that this pressure is produced by vascular distension; that in health, any cause which is capable of increasing or diminishing this vascular distension, has the effect of disturbing the functions of the brain; that these effects of vascular distension would be more serious and frequent if parts of the contents of the cranium were not readily removeable upon increase of vascular pressure; that, in pre-existing structural diseases of the encephalon, any increase of vascular distension causes much more serious disturbance of the cerebral functions, and

* Should any of our readers consider that our remark may apply as much to the opinions before us as to those of Dr. Kellie, and not feel satisfied with the coloured representations of the brains alluded to by the author in the above experiments, and given at the conclusion of this work, they may, of course, readily test the matter for themselves. For our own part, we greatly dislike experiments on animals, and feel perfectly satisfied with Dr. Burrows' observations.

the symptoms so produced are analogous to those of mechanical pressure on the brain,

"I have also attempted to support the opinion that variations of this vascular pressure are the causes of the intermitting character of the more urgent symptoms in cases of permanent disease within the cranium."

The author then proceeds to discuss the effects upon the cerebral functions of an interruption to the arterial supply of the brain consequent to temporary or permanent closure of the carotids, and reasons very ably upon the facts which have been adduced by MM. Longet and Ecker, and Dr. Norman Chevers in illustration of this point. But, as this question was fully discussed in our last volume, we shall not dwell any further upon it at present, except to dissent from Dr. Burrows' suggestion that ligature of the common carotid might be fairly resorted to in violent and hopeless cases of epilepsy, and some kindred maladies which are characterised by extreme cerebral congestion. We really consider that the operation is too severe and too uncertain to be employed in cases of this description. We can only give space to one or two isolated passages from the chapter on "Apoplectic Coma."

"From the concurrence of all the best authorities, it would seem that the presence of serum in the brain renders that organ more susceptible, and liable to suffer from any congestion of its blood-vessels, and the consequent vascular pressure, but the effused serum cannot be regarded as a cause of cerebral pressure adequate to the production of apoplectic coma."

We are, however, greatly inclined to believe that, both in cases where the serum is effused into the substance of the brain, and where ventricular and sub-arachnoid serous effusion are due to rapid inflammatory action, the coma, like the paralysis which attend it, is principally due to the pressure of the extravasated fluid.

"It appears to me that the existence of the extra-vascular serum within the cranium, and which is capable of so readily descending from that cavity to the spinal canal, must, inasmuch as it is but supplemental to the other contents of the cranium, afford an additional protection to the brain against the effects of any sudden congestion of its blood-vessels."

The chapter on the "Connection of Diseases of the Brain—particularly Apoplexy—with Diseases of the Heart" is one of great interest and research. It has been clearly proved that, in cases of cardiac obstruction, and especially in narrowing of the left auriculo-ventricular opening, and inefficiency of the mitral valve, the vessels of the brain suffer from congestion, and are liable to become the sources of effusions of serum and blood from a cause similar to that which produces the pulmonary and abdominal extravasations and exudations by which these cases are usually attended. The frequent co-existence of hypertrophy of the left ventricle of the heart with cerebral apoplexy has also led to the opinion that these lesions often bear to each other the relation of cause and effect; and it would certainly be difficult to disprove the theory: still we have always been disinclined to admit it, fully believing that the hypertrophy of the heart is rather the coincident than the cause of the apoplexy. It is generally believed, and the opinion seems to be countenanced by our author, that the diseased condition of the cerebral arteries which is almost invariably present in these cases, and to which the extravasation is immediately due, has resulted from the hypertrophic state of the ventricle; but it is also certain that a precisely similar condition of the vessels is frequently noticed where there is no unusual degree of cardiac hypertrophy. Disease of the terminal arterial branches is most frequently one of the causes rather than the consequence of hypertrophy of the left ventricle, and it may itself result either from altered nutrition or from undue quantity or irritating quality of the blood—states which may be traced to lesions of the depurative organs, and which are almost invariably present in cases of cerebral apoplexy. That the diseased and inelastic state of the cerebral vessels, the inordinate bulk of the circulating fluids, and the hypertrophy of the left ventricle, frequently co-exist and act together in apoplectic cases, is certain; but we repeat, that the dependence of the effusion wholly upon the state of the heart can scarcely be proved, and we think that a too close adherence to that theory is liable to occasion very serious error in practice.

Dr. Burrows has been at great pains

to decide at what ages apoplexy most frequently occurs: and he deduces, from statistical facts,

"That the relative frequency of apoplexy steadily increases from 20 to 80 years of age;" "and that the actual number of apoplectic cases increases in each successive decennial period upwards, from 20 to 70 years of age, while the numbers living gradually diminish."

In the chapter on the "Treatment of Apoplexy and Hemiplegia," his opinion agrees with that of every experienced physician of the present day in reprobating the indiscriminate use of the lancet: and he endeavours to trace out certain conditions of the system which will enable the practitioner to decide for or against large depletion in particular cases, with more confidence than by following the rules which are usually recommended. He lays particular stress upon the necessity of carefully examining the state of the heart before having recourse to active treatment, as the existence of organic disease of that organ will greatly modify the therapeutic indications, and as the peculiarities of the pulse in apoplexy and other cerebral affections are often very perplexing. It will, of course, be proper to comply with this hint in every case of apoplexy—indeed, we believe that, in the present day, the caution is rarely neglected. But it will be found that, in many cases of apoplexy—and especially in those where the effusion is large and central—the heart's action becomes deranged to an extraordinary degree, quite independently of any organic change in the circulatory system, but merely in consequence of the irritation or other lesion then existing in the brain. We believe that this derangement of the heart's action rarely, if ever, occurs in any cerebral cases where the brain lesions are not of a severe and inevitably fatal character; still it is exceedingly necessary to bear in mind that this excited state of the circulation cannot be received as an indication of active treatment. Dr. Burrows very justly observes that—

"If no cardiac disease be discovered, or if simple hypertrophy, without notable valvular disease, be detected, depletion, both general and local, may be carried on so far as the cerebral symptoms appear to call for that kind of relief."

These are, however, nice points of diagnosis; and, as we have before hinted, there is great danger in mistaking excitement of the heart's action produced by cerebral mischief, for the powerful impulse which results from hypertrophy of the ventricle.

In cases where mitral or aortic valve disease is ascertained to exist, the author states that greater relief to the symptoms will be obtained by a free abstraction of blood from the vicinity of the heart (either by cupping from beneath the left mamma, or between the left scapula and spine) than by a much larger depletion by venesection. In cases of apoplexy and hemiplegia complicated with dilatation of the cavities of the heart and extensive emphysema of the lungs, the author suggests the employment of cupping-glasses to the nape of the neck or between the scapulæ, with the internal administration of stimulating diuretics, diffusible stimulants, and the application of rubefacients to the sternum. The remarks on the subsequent treatment of apoplexy contain several judicious suggestions.

The Sixth Section, "On the Influence of Diseases of the Heart in exciting Functional Disturbance of the Brain," will be read with interest, especially the remarks on epistaxis complicated with cardiac disease, and on the influence of derangements of the circulation in producing or aggravating obscure and intractable cerebral affections.

The whole of our readers are doubtless aware that certain diseases of the heart and its coverings, and especially acute pericarditis, are liable to simulate an affection of the brain. Dr. Burrows has collected sixteen cases of acute pericarditis, in which the most prominent symptoms were referable to the nervous system. The pathology of these cases still remains a *questio vexata*. It cannot be maintained that the cerebral symptoms were due to acute inflammation of the brain; as in the whole of the cases of this kind which have been examined, the brain and its coverings are reported to have been free from inflammatory or other morbid change. Some pathologists have supposed that these cases are only met with in connection with rheumatism; but of the sixteen cases collected by Dr. Burrows, no rheumatic

affection could be discovered in seven. The author is inclined to coincide with the opinion of Dr. Bright, that the cerebral symptoms depend upon extension of the pericardial inflammation to the phrenic nerve. He also considers, that, in a certain class of these cases, we may receive Dr. Watson's opinion that the disorder of the sensorial functions is not attributable to any inflammation of the brain, but is probably dependent upon disturbance of the cerebral circulation, occasioned by the embarrassment of the heart's action during the progress of acute inflammation of its tissues. We cannot fully subscribe to either of these views, although, in some instances, the latter may certainly be valid. Cases occur, again and again, in which the surfaces of the pleuræ covering the phrenic nerves become involved in intense inflammatory disease, and where no disturbance of the cerebral functions is at all observable; and many instances present themselves where the heart's action is extremely embarrassed from the effects of pericarditis, and where the sensorial functions are not in any way interfered with. An instance certainly occurred within our observation, where a patient, suffering severely from adhesion of the pericardium interfering with the heart's action, died from a sudden cerebral attack consequent upon old organic mischief: the fatal symptoms were here evidently due to obstructed cerebral circulation, but the original disease arose from another cause. We are inclined to believe that, in the whole of these acute cases, the pericardial and cerebral affections are alike mainly due to a contaminated state of the circulating fluids: in many of the cases it may be an aggravated condition of that state of the blood which is now generally understood to be present in acute rheumatism and gout;—indeed it is not proved that this is not the case in the whole of these instances; but we think that a careful examination of Dr. Burrows' sixteen cases will lead to the suspicion that, in most of them, if not in all, there must have existed a vitiated state of the fluids, wholly incompatible with healthy cerebral action. In more than one of the cases in question, the character of the pericardial inflammation and other circumstances of the history, lead us to believe that the patients suffered from an aggravated form of renal disease.

We have derived much gratification from the perusal of Dr. Burrows' very able work, and strongly recommend its perusal to our readers. It is replete with interesting and practically useful facts, and well supports the author's reputation as a careful and judicious observer.

## Proceedings of Societies.

### DUBLIN PATHOLOGICAL SOCIETY.

#### *Dr. Law on a Case of Softening of the Brain.*

At a late meeting of the Dublin Pathological Society, Dr. Law, in presenting a recent specimen of softening of the brain, observed, that the experience of most practical men, and of those whose attention had been most directed to the study of cerebral diseases, and under the most advantageous circumstances to observe these diseases, and who had the best opportunities of connecting the symptoms during life with the appearances after death, felt how much was still wanting to establish anything like certainty on a constancy of relation between the lesions of the brain and their symptoms. It was not alone that a great amount of structural change coexisted with apparently slight symptoms; and, again, very marked symptoms were present when there was but a small amount of structural alteration; but often the same symptoms coexist with lesions very different in their nature; while, again, the same lesions as often give rise to symptoms very different in themselves. Dr. Law considered that these views were borne out by the present case, in which a great extent of cerebral lesion existed, while the symptoms bore but a slight relation to them, and in which the symptoms indicating the lesion having existed disappeared in a great degree.

The subject of the present case was a man aged 67, a butler, who had been ill for three years or more before his death; he had been obliged to relinquish his situation on account of chronic bronchitic affection complicated with emphysema, as also disease of the heart. There was irregularity both of the heart's action and of the pulse at the wrist; it occurred to Dr. Law, however, that the disturbance had more of the characters of a functional than an organic affection; at least, that the signs were not strictly in accordance with those ascribed to valvular disease.

During a year spent out of his situation,

subjected to a mode of diet very different, of course, from what he had been previously accustomed to, (it being familiarly known, Dr. Law observed, that persons in the capacity of butler, or of gentleman's gentleman, are quite as well fed as their masters), his health declined considerably, and one day the patient fell down suddenly in a state of unconsciousness. In eight or nine hours after this, Dr. Law saw the patient, and found him recovered in some degree, but his speech was lost, and his mind was not clear; he had hemiplegia of the left side. In this condition he was brought to Sir P. Dunne's Hospital, where he remained under treatment for a month, at the end of which period he had completely recovered of the hemiplegia, and regained his speech, but his intellect remained impaired; he had hallucinations of various kinds; fancied persons stealing his clothes; he could not be persuaded that one of the nurses was not his daughter, and, under this impression, he constantly scolded her for being deficient in the kindness which, as her father, he conceived himself entitled to. The man, naturally good-tempered, became, in fact, so cross and disagreeable, that it was impossible to exercise control over him. In this way he went on for a year and half, the chest affection having become much improved; he had occasional attacks of diarrhœa; his health became considerably impaired; he had lost his speech; his consciousness, though more distinct, was still very imperfect. Through pity for his circumstances, Dr. Law retained him in the hospital for some time longer, but he again fell into a dull, moping, listless condition, from which he never recovered. His diet, which had hitherto been liberal, was reduced, at his own request, to the middle allowance; and, after lingering for some time, he fell into a state of coma, in which he continued for three days, and then died.

At the autopsy, the calvarium having been removed, Dr. Law was struck with the smallness of the brain, as compared with its bony case, the brain appearing to have shrunk down; on opening the dura mater, the arachnoid was seen distended, as if by fluid contained between it and the brain; and, upon a puncture being made, a large quantity of serum escaped. Before removing the brain, a depression was observed at the outer part of its left hemisphere, which, on closer examination, proved to be a complete loss of substance, giving rise to a cavity which would contain the bulk of about half a walnut; its surface was irregular, and had a dirty granulated appearance. On scraping off a thin stratum of yellowish matter, however, the substance of the brain was exposed. Next, looking to the ventricles, there was some fluid effused into them, and their contour appeared peculiarly well defined. The corpus striatum was soft, and converted into a green diffluent matter. The brain behind this presented also points of distinction of its substance constituting old apoplectic cells. The upper substance of the brain was unbroken. The vessels at its base contained calcareous deposits. Proceeding to examine the heart, calcareous depositions were found in the aortic and mitral valves; there was some thickening at the edges of the latter. The observations just made by Dr. Law, respecting diseases affecting the brain, were, he considered, true in reference to diseases of the heart also; many instances of very extensive disease of that organ were known to be accompanied with symptoms of an ill-defined character. In this case, the heart affection was nearly overlooked during the cerebral attacks. The disease of softening of the brain was observed even by Morgagni. But Rostan had drawn especial attention to it, and, from its frequency in persons advanced in life, regarded it as a consequence of defective nutrition of the organ, and quite independent of antecedent inflammation; an opinion which drew from Lallemand (whose observations were made under different circumstances) an expression of his conviction that this softening is the result of purulent infiltration, the consequence of encephalitis.

Both conclusions, Dr. Law believed, were of too exclusive a nature; in his case there would appear to be somewhat of a combination of the two modifications; for he believed that a primary effusion of fluid into the substance of the brain had acted upon it, and produced the softening of the cerebral substance in its neighbourhood.

Effusion of blood into the brain, as in other situations, such as the lungs, might, he believed, be diffused, and subsequently become inclosed in a cyst, as in the lungs, and in an ecchymosis in an external part, and this cyst remove the clot contained in it by absorption, and its surface either remain smooth, containing a fluid, or else it might become ulcerated and jagged, and irregular. Dr. Law was not prepared to say how far the cerebral affection depended upon the disease of the heart. While the connection between cerebral apoplexy and hypertrophy of the left ventricle had been noticed by French pathologists, he believed he was the first to connect softening of the brain with cardiac disease when such disease had the effect of preventing the due supply of blood to the brain, as was the case in affections of the aortic valves, in which much of the small quantity of the blood that passed from the ventricle into the artery returned into the ventricle again, and more particularly when the mitral valve admitted of regurgitation at the same time. Dr. Law had oppor-

tunities of bringing instances of this kind under the notice of the Pathological Society which quite confirmed the correctness of Rostan's view, that in some cases at least ramollissement of the brain is the result of this organ being deprived of its proper quantity of blood,—a view further confirmed by a recent paper by Dr. Norman Chevers*, connecting ramollissement of the brain with tying the carotid artery. The slight amount of valvular disease, with the extremely irregular action of the heart, only equalled by the irregularity of the organ consequent upon rupture of the chordæ tendineæ, perplexed Dr. Law a good deal. He believed, however, he discovered the explanation of it in an unusually elongated condition of the chordæ tendineæ, which appeared to him to be such as to admit of the valve being carried back into the auricle, and, in this way, in a degree to resemble the condition of the valve when more completely freed from these bands by their rupture.—*Dublin Hospital Gazette.*

## ROYAL INSTITUTION.

Friday, June 12, 1846.

*Professor Faraday on the Cohesive Force of Water. Proofs of the existence of this force—measurement of its degree. Experiments of MM. Henry and Donné. Boiling point of water 275°. Repulsion of water by red-hot metals. Spheroidal state of solids and liquids. Water and mercury frozen in a red-hot crucible.*

THIS was the last evening meeting, for the season, of the members of the Royal Institution, and on this occasion Prof. Faraday gave an interesting lecture on the "Cohesive Force of Water." The lecture was so strictly experimental, that we can do little more than give the heads of some of the most striking illustrations which were brought forward.

The Professor first adverted to the three conditions of water as ice, water, and steam. Bodies which appeared perfectly liquid were in reality often in a transition state, *i. e.* ready to take on the solid form from the slightest mechanical disturbance in their particles. This was well known to be the case with a saturated solution of sulphate of soda which might be kept for a year in the state of a perfect liquid like water, but would in an instant, from any mechanical cause, such as mere agitation or the addition of any solid, become converted to a crystalline mass. There was a somewhat analogous condition with regard to liquids and vapours discovered by M. Cagniard de la Tour, and known under his name. At a certain temperature a liquid under sufficient pressure becomes a clear, transparent vapour or gas, having the same bulk as the liquid.*

Water, as a liquid, was supposed at one time to be destitute of all cohesive force, but the slightest attention to its properties proves that this is an error. When solids are immersed in water, a certain portion of the liquid adheres to them, and this is called adhesion. This, however, only refers to the mere film of liquid on the surface of the solid: and, as a drop or globule can be accumulated, it is obvious that the particles of water must have among themselves a strong force of cohesion, since they are able to resist the power of gravitation. Various experiments have been devised for the illustration of this property. Among others the familiar one of balancing a smooth glass plate, having a known area, at the end of a scale-beam, bringing this plate in contact with a surface of water, and then observing the weight required in the opposite scale to raise it. It will be found to be much more than an equivalent to the weight of the glass plate, provided care has been taken by covering the surface of the glass with a thin layer of soap, to ensure perfect contact. Laplace thought that the weight required to lift the plate, was an index of the force of cohesion between water and glass, but this is not the true explanation. The weight added to the opposite scale really indicates the cohesive force existing among the particles of water themselves; for before the plate is detached from the surface, it will be seen that a mass of water is actually raised up, forming a well-marked curve with the surface of the liquid. Some ounces are thus required to lift a plate exposing an area of twenty-five square inches.

The Professor next adverted to some remarkable experiments performed by M. Donné, a Belgian philosopher, and M. Henry on the cohesion of water. Donné found that if water were enclosed in a tube bent at right angles, and hermetically sealed on the principle of the water-hammer, provided there be no air in a free state, and one leg of the tube is completely filled with water, it might be inverted, *i. e.* turned with the angle downwards, without the water finding its level on the usual hydrostatic law. This experiment was shown: and it was thus rendered apparent, that there was a great force of cohesion in water, since a column of twelve or fourteen inches in height, and three quarters of an inch diameter, was thus sustained against gravity. When, however, the tube was gently shaken, a bubble of air, hitherto dissolved in the water, was dislodged by the concussion, rose to the surface of the water, and this immediately fell until the hydrostatic equilibrium was established.

* MEDICAL GAZETTE, Vol. xxxvi.

* See Vol. xxxv. p. 891.

When another tube containing water free from air was taken, it was found impossible to dislodge the column of water, or to produce the effect of the water-hammer, without incurring the risk of breaking the tube. M. Henry had calculated from certain experiments that the cohesive force of water was equal to some hundreds of pounds pressure. He also made the remarkable discovery that the boiling point of water, entirely deprived of air by shaking it in the manner above described, was no less than 275°; and that when this temperature was reached, a large body of steam was suddenly generated with explosive force, much in the same way in which the boiling of concentrated sulphuric acid is observed to take place. The boiling point of water is thus raised to a temperature equivalent to a pressure of three atmospheres, or forty-five pounds on the square inch. This result, therefore, enables us to form an idea of the power whereby the particles of water are held together; for it is undoubtedly the force of cohesion among them which enables them to resist the action of heat until so high a temperature has been reached. Were it not for the air contained in it, water would not boil at 212°; and the operation would be attended with considerable danger, since, when deprived of air, the boiling of this liquid is always accompanied by a violent explosion.

Water is repelled by the surfaces of numerous solids, and in this fact we have an additional illustration of the great cohesive force among its particles; for the liquid invariably settles in globular masses or acquires a convex surface. The dew on the leaf was a well-known instance: but there is another remarkable illustration of this property, in the fact that the meshes of fine wire-gauze are not traversable by water, notwithstanding its perfect liquidity. This was proved by pouring water into a small cylindrical vessel made of copper-wire-gauze. The water remained in it without flowing out, just as if the sides were formed of solid matter, instead of being perforated with an infinite number of holes. It was not until the vessel was shaken that a communication could be established with the outside, and the water flowed away. A strong cohesion might be set up between water and metal by covering the top of an open jar with fine wire-gauze and moistening the surface. A thin film of water was locked up in each mesh of the gauze; and so strong was the cohesion, not merely of the water to the metallic copper, but of the particles of water to themselves, that atmospheric pressure was resisted, and the vessel plunged into water and raised, was now capable of supporting a column weighing several pounds. Professor Faraday then shewed that water would not traverse fine wire-gauze, so long as this was at a red heat or near it. A cup of very fine wire-gauze was heated to redness, and some water poured on. It rolled over the surface like a rounded mass of quicksilver, so long as the heat was maintained; but when the lamp was withdrawn, and the wire allowed to cool, the water speedily traversed the meshes, producing an abundance of steam.

It is an old and well-known fact, that water will lie upon red hot surfaces without boiling or producing any perceptible quantity of vapour. The same law applies to all liquids. Water was poured on a red hot vessel, and it remained like quicksilver in constant motion, but without producing visible steam. In all these cases there was no immediate contact between the liquid and red hot metal. Contact was entirely prevented by the interposition of a thin film of very dry vapour: and it had been found, singularly enough, that the liquid while on the red hot metal, and not in contact, had a temperature several degrees below its boiling point. Thus water had a temperature of only 205°*; and although it underwent rapid diminution by passing off in vapuor, yet this vapour, unlike ordinary steam, was perfectly invisible, owing to its being intensely dried, and probably passing at once into an atmosphere, strongly heated by radiation from the heated vessel. When the heat was withdrawn, and the metallic vessel had cooled to a certain degree, there was immediate contact between it and the liquid; and the greater part of the latter was suddenly dissipated in steam. This was well known to be one cause of the explosions of steam-boilers. A similar experiment was then performed with ether, which is equally repelled by red hot metals; the vapour, however, became easily ignited: but the fact of non-contact was beautifully illustrated not merely by the sight of the liquid ether rolling like mercury within the interior of the flame, but by the sudden evolution of a much larger quantity of ethereal vapour, manifested by an increase of the flame, when the vessel was allowed to cool so as to establish contact of the liquid with the metal.

M. Boutigny has called this the spheroidal state of bodies. It is a most singular condition of matter, and the property leads to some very remarkable and unexpected results. Thus, with regard to iodine, this is well known to be a solid giving off at a gentle heat richly coloured violet vapours. If iodine be thrown on red hot metal (platina) it melts and forms a spheroidal mass, giving off a small quantity of vapour. It has the appearance of a black liquid;

* For an account of M. Boutigny's experiments, see vol. xxxv. p. 568. The temperature of 96°, there stated, should be 96° C., or 205° F.

and there is evidently no contact. When the vessel is allowed to cool, contact takes place, and this was indicated by the sudden burst of a large quantity of vapour of iodine from the surface of the metal.

By taking advantage of this principle M. Boutigny succeeded in freezing water in a red hot crucible, an experiment which excited considerable attention at the last meeting of the British Association. Professor Faraday then performed the experiment by making a platina crucible nearly red hot, and pouring into this, anhydrous sulphurous acid, and immediately afterwards an equal quantity of water. There was no contact between the liquid sulphurous acid and the hot metal. The acid boils at 14° F. and the evaporation is so rapid, that it cools the water poured upon it to a degree considerably below the freezing point, so that it became instantaneously a mass of ice. The lump of ice was thrown out on the table. The ice thus formed is in fact a solid hydrated compound of sulphurous acid and water, but the same effect is obtained by plunging a tube containing water into the acid,—only it requires a longer time for the freezing, and the vapour of sulphurous acid is highly suffocating. Caustic potash poured over the table tended to fix the acid and prevent the diffusion of the vapour.

It is worthy of remark, that the temperature of all liquids in the spheroidal state, is a little below that at which they boil; and they pass into the spheroidal state at a temperature which is low in proportion to the lowness of their boiling points. Thus ether becomes spheroidal on metal, when only moderately heated, and retains this condition for a considerable period; while water requires a much higher temperature in the metal, and soon wets it by adhesion. Hence in freezing water in anhydrous sulphurous acid, it is not necessary to heat the metal very intensely; because this liquid assumes the spheroidal state at a comparatively low degree of heat.

In carrying out Boutigny's experiments, Professor Faraday ascertained that even mercury might be frozen under these circumstances; although the degree of cold required for this purpose is well known to be 72° below the freezing point of water. A platina crucible was made hot, and several lumps of solid carbonic acid were put into it. Ether was then poured upon the carbonic acid, and a cold bath in a spheroidal state on the hot metal was thus procured, equal, in the air, to a temperature of 106° below zero; and under these circumstances the vapour of æther was not inflammable.* A ladle containing liquid mercury was then introduced into the bath; and in a few seconds it was completely frozen to a solid hard button of metallic mercury! In this way, several portions of the liquid metal were successively frozen. This remarkable experiment, which was here for the first time performed in public, shows that by following out the principles of scientific discovery, results may be obtained which *à priori* appear absolutely impossible, and contrary to the laws of nature.

* See vol. xxxv. p. 449.

## Hospital and Infirmary Reports.

### CLINICAL REPORT OF SURGICAL CASES,

*At St. Bartholomew's Hospital.*

By Luther Holden, F.R.C.S.
Demonstrator of Anatomy at St. Bartholomew's Hospital.

*Compound fracture of the skull, with laceration of the dura mater, and protrusion of the Brain; Hernia Cerebri. Death on the thirty-third day.*

Case.—Jabel Turner, æt. 17, was admitted under the care of Mr. Stanley, on the 4th of March.

This youth was tickling the flank of a horse just removed from a cart, when the animal kicked and struck him a severe blow over the right brow. As the lad was falling, his head came into collision with the axle of the cart, which thus occasioned a second serious injury to the head.

He was picked up insensible, and conveyed to the hospital about two hours after the accident.

We were told that he lost a large quantity of blood on the road, and that small pieces of brain came out through his wounds. There was a very extensive laceration and detachment of the scalp on the left side of the head, from which there was copious bleeding. The finger readily detected a wide-spreading fracture through the subjacent frontal and parietal bones. There was an obvious depression of one edge of the fracture, from which small fragments of brain were protruding. Over the right eyebrow, where he was kicked by the horse, there was a slight ulceration of the skin, through which the frontal bone could be felt broken.

His general condition was as follows:—The body was cold; the pulse feeble and slow; the breathing laborious and accompanied by a peculiar moaning sound. When not disturbed he lay apparently unconscious, but he was so far sensible that he moved his hands to his head and struggled if the wounds were touched. Upon the

whole it was the general opinion that he could not long survive.

It became a question whether any attempt should be made to raise the depressed portion of bone. As there was already a free laceration of the soft parts, a free exposure of the broken bone, and a rent in the dura mater, a slight additional division of the scalp was all that was required to accomplish that which could not aggravate the already existing mischief, and might probably be productive of good.

Accordingly, Mr. Stanley enlarged the external wound, and with the assistance of Hey's saw, raised the depressed bone, and removed one or two loose fragments.

During this operation, it was necessary to hold the arms and legs of the boy, who seemed to suffer much pain. A large quantity of blood was lost, but the bleeding ceased on the application of cold.

During the first five days following the injury, the boy did not rally, but continued in the same unconscious condition. He was, however, made to swallow two calomel and jalap pills dissolved in water, and common enemata were at intervals thrown up the rectum, by which means the bowels were freely relieved. Some toast and water was occasionally poured into his mouth; but a very small quantity passed down the throat, and frequently excited a cough which caused the liquid to be returned.

On the sixth day after the accident, the boy recovered his consciousness so far that he took hold of a saucer and swallowed some tea. On the following day he spoke for the first time, and called out for his mother. Henceforth, to our great surprise, all went on remarkably well. The pulse rose to its natural and healthy standard. He had a good appetite, and was perfectly conscious.

A portion of brain, which could be readily recognized by its pulsation, rose up through the defective wall of the skull, threw out healthy granulations, and formed part of the surface of the wound now in progress of cicatrization.

The well-doing of the case continued till the nineteenth day, when symptoms betokening inflammation of the membranes of the brain arose. The head felt hot, and there was no secretion from the wound. The boy grew irritable and restless, particularly at night; the nurses had great difficulty in keeping him in bed. At times he would get out into the middle of the ward much alarmed, and cry apparently without reason; at others he was very passionate, and would tear away the dressing from his head. At this period of his illness we noticed a marked paralysis of the left side of his face, which continued till death. This loss of power over the muscles of the face was not attended with any loss of sensation.

During the afternoon of the 25th day he fell into a passion, during which he tore away all the bandage from his wounds, and lacerated with his fingers the protruding brain.

In the hope of allaying this irritability of his nervous system, and procuring sleep, one sixth part of a grain of the muriate of morphia was given in the evening.

From this time till his death, which took place in a week afterwards, his pulse, which had been previously natural, became slow and laborious; and he fell into a state of coma, from which it was difficult to rouse him. On the thirty-first day he had convulsions, which were confined chiefly to the muscles of the right side of the face. He became more comatose, and died on the thirty-third day from the accident.

*Post-mortem examination.*—The wound on the left side of the head had contracted to the size of a crown-piece. The portion of brain which had protruded through the aperture of the skull was black and sloughy, without any appearance of granulations. The wound over the right eye-brow had healed. When the skull-cap was removed the left cerebral hemisphere was seen to be extensively disorganised opposite the external wound. This disorganisation had penetrated into its substance nearly as deep as the lateral ventricle.

An abundant deposit of greenish-coloured purulent matter was found diffused over the arachnoid generally, more especially over the left lobes and base of the brain. The fracture on the left side of the head extended downwards to the base of the skull, traversing the squamous and petrous portions of the left temporal bone, directly through the centre of the tympanum. This may account for the paralysis of the left facial nerve.

The fracture of the frontal bone on the right side extended irregularly through the corresponding orbital plate, but neither dura mater nor brain were here injured.

Though the boy survived more than a month there was no evidence of any attempt towards union in the fractured basis of the skull.

When the chest was opened the left lung did not collapse. In some parts this lung was infiltrated with turbid serum, in others with pus. There were also several small circumscribed abscesses, round which the lung was solidified. Towards the thin border of the lower lobe there was a portion of the size of a crown piece in a state of gangrene. Both kidneys were granular.

Mr. Stanley, in a clinical lecture on this case, observed, with respect to its diagnosis on admission, that, notwithstanding the de-

pressed bone, the insensibility was rather the result of concussion than compression of the brain, since "*he moved his hands to his head and struggled if the wounds were touched.*"

Viewed as a case of concussion, it is worthy of notice that the duration of insensibility was unusually long. The boy was wholly unconscious of what was going on around, and incapable of being roused till the sixth day. The ordinary duration of insensibility in what is called the first stage of concussion is not more than a few hours; occasionally the return of consciousness is protracted for a few days, very rarely later. Mr. Stanley had lately an opportunity of witnessing a similar fact in a case of concussion unaccompanied by other mischief. He was sent for into the country to see a gentleman who had been thrown from his horse, and completely stunned by the fall. The only external marks of injury, were a few slight abrasions of the face and scalp. Nearly a week elapsed before the patient recovered any considerable degree of consciousness. He has since completely recovered.

It is a point of interest in the case of our hospital patient that, after so severe a concussion, so long an abrogation of the functions of the brain, the return of consciousness was not gradual, but at once complete.

It was not followed, as ordinarily in cases of severe concussion, by re-action and its consequent inflammation of the brain.

A question may here naturally arise whether the subsequent favourable progress of the case should not be ascribed to the very large loss of blood immediately after the receipt of the injury.

If the absence of subsequent re-action can fairly be attributed to this circumstance, we gain an important fact, which should influence our treatment in cases of similar injuries.

The pathological appearances observed in the lung afford a good example of the effects of secondary inflammation, which sometimes occurs in distant organs after injuries of the head. Though this secondary inflammation had attacked one of the most important organs in the body, and caused effusion of serum, pus, and even gangrene, in its substance, yet no pain, cough, expectoration, or even fœtid odour, existed during life to give warning of the insidious disease.

*Large irreducible scrotal hernia—Doubtful symptoms of strangulation — Operation on the fifth day—Neck of the sac found quite free—Death—Stricture caused by a membranous band within the sac—Unusual position of the testicle.*

Case.—J. Whitehead, a stout corpulent blacksmith, 46 years of age, has been for many years the subject of a large irreducible scrotal hernia on the right side. He has never worn a truss, nor suffered pain in the swelling except when the bowels were confined.

In the middle of Sunday, the 19th of April, he was admitted into Bentley ward, under the care of Mr. Stanley, on account of constipation, which had existed for three days. During the last twenty-four hours he had been sick, and had vomited frequently. The rupture formed an elastic swelling as large as a child's head, and occupied the whole of the scrotum. There was no tension or pain in any part of the swelling. The abdomen was slightly painful on pressure, and rather swollen. No distress was visible in the countenance, and the pulse was quiet.

The right testicle was situated in front of the rupture. The left was in its usual position.

During the remainder of Sunday and the whole of Monday (the 20th) suitable purgatives and repeated enemata were given in the hope of procuring a passage through the intestines. Though several discharges of fæcal matter took place after the enemata, nevertheless the persistence of the sickness and vomiting, together with the gradually increasing swelling of the abdomen, created a doubt whether these evacuations were any thing more than a simple clearing out of the lower bowel.

In the middle of Tuesday (the 21st) Mr. Stanley consulted with Mr. Lawrence on the propriety of operating on the hernia. As the tumor was still soft, and free from pain, the general condition of the man, although unfavourable, did not then appear to warrant a measure so perilous as an operation on so large a hernia.

It was therefore decided to try the effect of a large dose of calomel, with repeated enemata.

From this time a sudden and rapid change ensued. In less than three hours afterwards he was extremely exhausted, and almost pulseless. Later in the evening it was considered advisable to make a small incision down to the neck of the sac, which was opened and found to be perfectly free. The man immediately afterwards expired.

*Post-mortem examination.*—The external and internal abdominal rings were quite free. The hernial sac contained the cæcum, arch of the colon, great omentum, part of the mesocolon, and a considerable mass of small intestines. The stricture was formed by an adventitious membranous band, passing from the back part of the neck of the sac to the mesocolon. Beneath this band the small intestines were tightly constricted, and in consequence of a dark blue colour.

The large intestine within the sac being in front of this band was not influenced by it, and consequently had suffered no constriction; thus the case presented the remarkable feature of only a portion of the contents of the hernia being strangulated, the other portion of the contents being perfectly free.

Respecting this case, Mr. Stanley in his lecture observed, that if the operation suitable to a large hernia, namely, the incision of the ring without the opening of the sac, had in this case been performed when the general condition of the man was not unfavourable, it would have been of no avail, the source of strangulation being wholly within the sac.

The sudden collapse of this patient without any progressive gradual change is worthy of notice. The unusual situation of the testis in front of the hernial sac could not be satisfactorily explained.

*Wound of the head—Delirium tremens—Erysipelas of the scalp—Suppuration beneath the tendon of the occipito-frontal muscle—Death—Disease of the lungs, liver, and kidneys.*

Case.—John Fraser, 43 years of age, a man of very intemperate habits, fell down stairs on the evening of the 20th of March, and wounded the scalp, from which there was much bleeding. He passed a restless night, and felt so much worse on the following morning that his friends brought him to the hospital, where he was admitted under the care of Mr. Stanley.

There was a slight lacerated wound of the scalp without exposure of bone. Though perfectly rational, his nervous system was evidently much excited; he was very restless and uneasy, and complained of pain in the head. He seemed to have lost a proper control over the muscles of the arms and hands, which were very tremulous when he attempted to raise them. His bowels were evacuated by two calomel and jalap pills, and a quarter of a grain of the acetate of morphia was given to him at bed-time.

Head to be shaved, and cold applied.

During the two succeeding days (21st and 22d) the nervous excitement increased; and on the 23d the pain in the head was so severe that eight ounces of blood were taken by cupping from the back of the neck. The loss of blood was certainly beneficial in relieving the pain in the head, but tended in all probability to hasten the occurrence of delirium tremens, which appeared in a well-marked form on the morning of the 24th. Forty drops of laudanum were given to him in brandy; and a quarter of a grain of the acetate of morphia twice in the twenty-four hours.—A blister to the nape.

Under this treatment, accompanied with a liberal allowance of beef-tea and porter, the delirium subsided after three days.

On the 27th the patient was attacked by inflammation of an erysipelatous character over the scalp and face of the right side. The tongue was of a dirty white colour, and rather dry, and the pulse full, but not strong.

Under these circumstances mild doses of Hydrarg. c. Cretâ, with salines, were prescribed, but discontinued on the following day, on account of the feeble condition of the patient, which required support. Wine and beef-tea were allowed, with an occasional opiate at bed-time.

In a short time the inflammation occupied the entire scalp, which was slightly red, and raised into a general elevation, presenting a characteristic boggy feel, and extremely painful on pressure. Two small openings were made through the inflamed and swollen scalp; and through these well-formed pus could be slowly squeezed.

On the following day it was necessary to enlarge these openings, manifestly inadequate to the discharge of matter which could be pressed towards them from a considerable distance. The seat of this suppuration was in the cellular tissue beneath the aponeurosis of the scalp, which was thus extensively undermined. Portions of this cellular tissue in a state of slough were subsequently detached; but there was no sloughing of the scalp.

During this long-continued suppuration and discharge of sloughs, the patient was supported by a generous diet, wine, and quinine. When the discharge had ceased a reasonable hope was entertained that the constitution would recover its strength; but it was otherwise. The appetite failed, the pulse flagged, and the tongue became dry and brown; a cough, with troublesome expectoration, came on; the urine was scanty and albuminous, and the legs anasarcous a few days before his death, which took place on the 3d of May, forty-three days after the injury.

*Post-mortem examination.*

The scalp was universally and very closely adherent to the pericardium, without any apparent intervening cellular tissue. A large quantity of serous fluid was seen in the cavity af the arachnoid, and in the ventricles of the brain. The lungs were œdematous throughout, and exhibited effects of recent inflammation. The bronchial tubes were loaded with mucus. The pleura was adherent on the right side. The liver was enlarged, and contained fat in abundance. The kidneys were in a state of granular disease.

In reference to this case, Mr. Stanley

observed that it was a difficult question to determine during the first few days after the injury, whether the excitement of the nervous system, and tremor of the arms, were premonitory symptoms of delirium tremens, or rather indicative of slow inflammation of the membranes of the brain.

After a fall on the head, followed by doubtful symptoms, the adoption of a stimulant plan of treatment would be rather hazardous. On the other hand, the increasing pain in the head did certainly warrant a small abstraction of blood.

The appearance of delirium tremens so soon after depletion might fairly raise the question whether its occurrence were not thereby accelerated, since it is matter of observation that individuals of intemperate habits are peculiarly obnoxious to this disease whenever their vital powers are depressed by accident or otherwise.

Though the cellular tissue beneath the scalp was wholly destroyed, the integument preserved its vitality. This exception forms a striking contrast to the effects resulting from extensive destruction of the subcutaneous cellular tissue in other parts, after which, the integuments, being deprived of their vascular supply, become livid, and die.

Baron Dupuytren explains, in his Clinical Lectures, the reason why this secondary gangrene does not occur in the head. The seat of what he calls "*diffused phlegmon*" in that situation is the cellular texture between the occipito-frontal aponeurosis and the pericranium. The sloughing of that texture does not affect the nutrient vessels of the scalp, which lie exteriorly to it, immediately under and almost in the integument itself.

The condition of the liver and kidneys explains the want of power in the constitution adequate to the recovery of the patient.

## Correspondence.

### THE CASE OF DONNELLY VERSUS SCOTT.

Sir,—My attention was, some days ago, called to, but personal indisposition has hitherto prevented me taking notice of, the remarks made by you, in your paper of the 22nd of May (p. 927), on the case of Donnelly *v.* Scott, recently tried at Glasgow, and in which I lately acted as solicitor for the pursuer.

In the first place, I would remark, that I quite agree with you in the opinion—"that by the members of no profession is so much done gratuitously for the poor as by medical men;" and I admit that, in general, what is so done by the profession, is done most ungrudgingly: but, while the whole gist of your remarks is to bring out a very different opinion, as against Dr. Donnelly, I think that it was abundantly shown at the trial that he forms no exception to the rest of his brethren in that respect: but, on the contrary, that he also, voluntarily and ungrudgingly, whenever occasion seems to call for it, devotes his gratuitous services to the poor. I speak, at present, from the meagre report of the evidence given in the defender, Mr. Scott's own newspaper, the Greenock Advertiser, of the 12th of May last: there you will find that one medical gentleman, Dr. Smith (a district surgeon to the poor), speaks of his having been assisted by Dr. Donnelly in his district or poor practice; and another gentleman, the Rev. Mr. Ryan, speaks to Dr. Donnelly having tendered and given his gratuitous services to the poor—to the extent, at times, of twenty cases a day—while fever was raging in the neighbourhood, and to the Doctor being, at all times, "most attentive, humane, and charitable, and, he adds, successful in his practice." In short, any given quantity of evidence might have been adduced on this point, but it was considered quite unnecessary to overload the case with it.

But to come to the more particular points on which you seemingly find fault, alike with Dr. Donnelly, and the verdict of the jury, and where, as I think, you are alike at fault, I would remark—1st, that while you emphatically, though indirectly, express your disapproval of the Doctor having previously stipulated for a fee of 5s. for a midnight visit to a stranger, you have seemingly altogether omitted to notice that it was distinctly proved, by three highly respectable medical men of the place, that the practice was there quite common, and had, indeed, been forced upon them, of stipulating for the payment of their fees before attending to the calls of parties to whom they are strangers. This is, perhaps, not much to be wondered at by any one who is at all acquainted with the class of whom no small proportion of the inhabitants of the town and neighbourhood have consisted for some years back, and the ordinary practitioners are all the more excusable for acting up to such a rule, when it is known, as indeed came out at the trial, that there is, and has for years been, a regular and efficient staff of salaried district surgeons for attending to the cases of the poor.

2nd.—From the manner in which you re-echo or repeat the defender's statement, as to Dr. Donnelly having given the body of the dead man "a shake," when he came in and found that he was dead, it might, I think, be readily enough inferred that, in your opinion at least, the Doctor had acted somewhat harshly and improperly on the

occasion. There is, however, no room whatever for any such a charge against the Doctor. The same witness—certainly not an educated man—who speaks of the Doctor having given the body what he calls "a shake," as expressly says that "nothing he (the Doctor) did showed that he was indifferent or unconcerned, and that he did not treat the body indecorously." And the other witnesses who were present speak of the Doctor having "examined" the body, telling at the same time to some extent how he did examine it, and that, if I understood what they said, just in the way that any other medical man would have done under similar circumstances, but all disclaiming that there was anything like unfeeling or improper conduct in what the Doctor did.

3rd.—As to the five shillings, which Dr. Donnelly got in payment of his fee, having come out of the pockets of the dead man (in itself a very different thing from their having been thence taken by the Doctor himself), you seemingly forget that the Doctor neither suggested nor had anything to do with the searching of the dead man's pockets; and that he had not, from coming into the house, himself said a single word about his fee till it was laid down to him on the table, by the landlady, with the remark—"that pays you," or "that is for you, Doctor." There may, no doubt, speaking after the event, and when it is known that the man did not leave enough behind him to pay the landlady what was due to her, be some difference in opinion as to the good taste displayed by the Doctor in taking a fee. But then it must be kept in mind (1) that the Doctor had at the time no means of knowing what the man might have left, and, at the trial it came out that he had some parcels with him which were not examined at the time; (2) that Mrs. Duncan, the landlady, by whom Dr. Donnelly was sent for, was an entire stranger to him, and that while he was quite ignorant of her circumstances, there was nothing in the appearance of her house to indicate that she or her husband (for her husband was then alive) was to have suffered any, the least, privation by his accepting his hard-earned fee—the witnesses at the trial, indeed, spoke of Mrs. Duncan having "had a very comfortable house for people in ordinary circumstances;" and (3) although it was not brought out at the trial (for it was quite unnecessary to do so), it is not the less an admitted fact, that, on its afterwards coming to the Doctor's knowledge that Mrs. Duncan was not likely to be paid what was owing to her, he voluntarily gave her back the 5s. which he had previously got from her.

4th.—With reference to what you say in your remarks, as to the defender "having obtained an account of the matter from the book of the Greenock Police Court," you have there overlooked the fact, that the jotting or memorandum book, from which the report was taken, was not the Court Book at all, but a private memorandum-book of the clerk's, in which many an idle gossiping story is put down, where the officials are themselves satisfied that there is no ground for a complaint, and where no complaint is in consequence ever issued by them—that, in point of fact, no complaint was taken out in the present instance—and the case, of course, never properly before the Court at all; and, what is perhaps of far more importance, that the defender was expressly warned by his friend the clerk of Court, against taking any notice of the matter. This is shortly and succinctly, but meant, I dare say, for being fairly enough stated, in the defender's own account of the trial—where Mr. John Scott, the Clerk of the Court, is reported to have said—"I think I noticed him (the defender) at the time taking down this entry, and said to him I wished he would not take it, as it was not a proper case, and also that it would very likely annoy Dr. Donnelly. He said it was too good to lose, and took it down." The defender, a daily visitor at the Clerk's Office, knew well what was meant by its not being a proper case, but Dr. Donnelly and he had taken very different sides in the politics of the day—they had been at law before with one another in matters arising out of these politics—the entry in the clerk's jotting book would "annoy Dr. Donnelly," it was, therefore, "too good to lose;" and, therefore, the defender, who himself knew, as he had heard, nothing of the circumstances, did, without further inquiry, insert the thing in his newspaper.

5th.—You state that "there was no proof of wilful malice in the case." Now, without taking up your time by going into farther particulars, I think I am perfectly warranted in saying that—although that is a point in which the Doctor is not in one sense much interested—malice, or at least something very near akin to it, was to be inferred from the statements made under the immediately preceding head of my remarks; and that the jury had, on the whole matters before them, been satisfied, not merely that there was nothing degrading to a professional man, or morally wrong on the part of Dr. Donnelly; but that there was, if not malice, at least something like a reckless mischievousness on the part of the defender, must, I think, be assumed from their having awarded £100 to the Doctor, and not the nominal sum of 5s., which, if damages at all were to be awarded, is what you say you think is all that ought to have been given to him; and this all the more so, that the Doctor had, throughout, as well through his counsel at

the trial (see even defender's report), as otherways, disclaimed the desire of "putting money into his pocket by the matter," and left it entirely to the jury to give such an amount of damages as would, in their opinion, be sufficient to free his character from the unjust aspersions which had been thrown upon it. That jury, I may here mention, was as respectable and intelligent a one as perhaps ever sat on any case of the kind—all educated men, several of them being merchants of the highest class, and the rest of them busIness men of a most respectable standing in society—and if you had access to the secrets of the jury-room, you would, or I am much mistaken, find that the half hour spent by them in deliberating on the matter was taken up in considering, not whether they should give the Doctor a smaller sum, but whether they were not bound to give him a *much larger* sum than what was latterly come to by them.

I fear that I have taken up too much of your time in my review of the matter; but the importance of having my client's conduct properly represented in the pages of such a publication as yours seemed to call for it.

I may add, that Dr. Donnelly does not as yet know of such a communication as this being made by me to you. But I have no doubt that you will consider it but fair to him to give effect to it in your next publication.—I am, sir,

Your most obedient servant,

Wm. Mason.

13, Bank-Street, Edinburgh,
June 4, 1846.

*** We insert this letter, on the principle of *audi alteram partem*. We are glad to find, indeed, that there are so many circumstances in extenuation of what appeared to be most extraordinary conduct on the part of the pursuer; and it is also satisfactory to know that he afterwards returned the fee to the landlady. We have been compelled, for want of space, to omit the last paragraph of the letter, which refers rather to the charge of the Judge than the exculpation of Dr. Donnelly. We learn from it that all intention of disputing the judgment has been abandoned by the defender.

### PARALYSIS OF THE ABDOMINAL MUSCLES IN HYSTERIA.

M. Piorry mentions, that in a case of hysteria in which the patient was affected successively with hemiplegia and paraplegia, the anterior abdominal parietes were also paralysed, the patient being quite unable to contract them. The abdomen became considerably distended and tympanitic, the intestines meeting with no resistance to their distension from the relaxed and yielding abdominal walls. The enormous tympanitic distension of the abdomen in many adynamic states is probably due in some measure to a loss of power over the abdominal muscles, which therefore yield much more readily to the distending force of the inflated intestines within.—*Gazette des Hôpitanx*, 9 Mai, 1846.

### ADULTERATION OF IODINE.

Much of the iodine now sold is adulterated with iron. In converting iodine into iodic acid by the action of strong nitric acid, a considerable quantity of a reddish-brown sediment is left. This will be found to be quite fixed at a high temperature, and easily dissolved by by muriatic aced,—the solution possesstng all the properties of sesquichloride of iron.

## Medical Intelligence.

### ALLEGED PRESENCE OF THE CHOLERA IN THE CAUCASUS.

The *Gazette des Hôpitaux* of May 28, states that there was a rumour at Constantinople that the cholera had broken out in the Russian army in the Caucasus. No authority is given for the report, and we give no credit to the statement.

### ROYAL COLLEGE OF CHEMISTRY. LAYING OF THE FOUNDATION STONE.

On the 16th inst. the Foundation Stone of the New Laboratories of the Royal College of Chemistry was laid by his Royal Highness Prince Albert, in the presence of the Council, Members, and a large assembly of noblemen and gentlemen. Among those present at the ceremony, were the Earl of Clarendon, the Bishops of Norwich and Oxford, Lord Palmerston, Lord Sandon, Lord Ebrington, Lord Newry, and other noblemen who have taken an interest in the progress of this institution. After his Royal Highness had gone through the ceremony of laying the stone, the assembly was addressed by the Earl of Clarendon in a very eloquent speech, in which he contracted the rapid progress of chemistry in the continental schools with its slow advance in this country. He attributed this to the want of public laboratories, easy of access to the students for the pursuit of the practical departments of the science. That want it was the object of the Council of the College to supply. At great personal sacrifice, and with disinterested motives, they had united to found a school of practical chemistry in which the science might be pursued in all its relations to medicine, the arts and agriculture.

The Bishop of Oxford then addressed the meeting in an appropriate speech.

His Royal Highness Prince Albert said that it was to him a great satisfaction to be present on such an occasion, and to take any share in promoting the objects of the institution. He should always be ready to assist the Council of the College in carrying out their views; which he felt confident would tend to the advancement of a most useful and important science.

### THE CHARGE AGAINST THE STUDENTS OF ST. BARTHOLOMEW'S HOSPITAL.

We are authorised to state that the bill against the two students of St. Bartholomew's Hospital, who were committed at Bow Street on the accusation of stealing a silver fork, (as reported in the Times and other journals), was ignored by the grand jury at the Central Criminal Court. The Medical Council of the Hospital has since instituted an inquiry into the whole matter, and have reported to the Treasurer their conviction that the charge against the students was entirely without foundation.

### ANTHROPOLOGICAL MUSEUM.

In the Parisian Museum of Natural History is about to be established a department specially devoted to comparative anthropology. The great object of this addition to the collection will be to illustrate all the varieties of the human race scattered over the globe.

A collection of this kind, properly made, would be a great desideratum to many of our own museums, in which we find skulls and odd bones, or occasionally a stray skeleton of a different race, but no attempt at order or classification. The English student will in vain look for the opportunity of contrasting the physical structure of the Caucasian with the Mongolian, Negro, and American varieties of mankind.

### INCREASE OF INSANITY IN FRANCE.

According to the late official announcement by the Minister of Commerce, the number of insane in France, taking the annual mean of seven years from 1835 to 1841, amounts to 18,350. This number includes all those who are and are not confined in public establishments. It would thus appear that insanity is on the increase. The admissions, which amounted to 3947 in 1835, reached 5841 in 1841; and in the same period of time the number of insane, which was 14,486 in 1835, has increased to 19,738. There is therefore an evident increase in the number of cases of insanity."—*Gazette Médicale*, 13 Juin.

*** The statistician who indulges in this calculation, appears to think that a population is stationary. He has omitted one very important item, namely to inform us whether the numbers in the respective years do or do not bear any ratio to the difference in the population at those periods, and without this datum, how is it possible to say whether insanity is on the increase or decrease? It is a great misfortune for medical statistics that so many persons regard it as a branch of science in which we have only to compare mere numbers. Erroneous statements of this kind are continually translated, printed, and circulated, without any comment, and in this way we have yearly a vast accumulation, not merely useless to the practitioner, but actually liable to mislead him.

### BATHS AND WASH-HOUSES FOR THE LABOURING CLASSES.

The following Petition from the Physicians and Surgeons of the Town and County of the Town of Southampton, is about to be presented to the Houses of Parliament, on the introduction of Sir H. Dukenfield's bill for the establishment of Baths and Wash-houses.

"That disease is constantly occasioned and aggravated among the labouring classes and the poor by their want of personal and domestic cleanliness, and the over-crowding of their dwellings in many instances renders their cultivation of habits of cleanliness almost impossible.

"That the rich are deeply interested in the health of the poor, not only on economic grounds, but also because many infectious disorders which eventually attack individuals of all ranks, originate in, and spread from the densely crowded quarters inhabited by those who are the poorest.

"That if the labouring and poorer classes had opportunities of bathing frequently, and the means of washing and drying thier clothes out of the rooms in which they live at a moderate expense, their condition would be, in some respects, greatly improved, and the consequences of their availing themselves of those opportunities would be beneficial to all classes.

"Your petitioners therefore humbly pray that your Honourable House will be pleased to pass such a Law to enable all Boroughs and Parishes desirous of adopting it to establish Public Baths and Washhouses as to your wisdom shall seem fit.

And your Petitioners will ever pray, &c.

Signed by all the Physicians and Surgeons practising in Southampton."

*** Petitions like this from the profession generally, would have great influence on the progress of a measure of this kind.

### WHOLESALE POISONING AT ENNISCORTHY.

A family named Cullin, composed of the mother, four sons, a daughter, and a poor travelling woman, and her son, aged about

13 or 14, all partook of stirabout made with barley meal; and the account is, that three of the sons are dead, and the others despaired of.

It appears that the stirabout by which the unfortunate young men came by their deaths was made by their mother on Friday morning, and the whole family partook of it—namely, the three young men deceased, their brother, Thomas Cullin, their sister Mary, and their mother. The three latter are still living; but all became ill shortly after having eaten it. They supposed that they had been seized with cholera; and hence it was that medical aid was not procured in due time. In the course of the day Dr. Furlong, of Wexford, was sent for; snd he arrived about 2 o'clock. Three out of the four young men were then dead; and the three surviving members of the family, particularly the young man and the young woman, were suffering most severely from the effects of poison. By the application of appropriate remedies, however, Dr. Furlong was enabled to preserve their lives. Having asked for some of the meal which they had used, it was brought to him; and he at once discovered that it contained arsenic. His attention was afterwards directed to the condition of the travelling woman and her son. He was able to preserve the life of the boy; but the woman died. On Saturday, and subsequently, he had the assistance of Dr. Goodall. On Tuesday the alarming and unnatural fact was fully ascertained by the confession of the delinquent party, that Mary Cullin, the unmarried sister of the unfortuuate young men deceased, was the person who put the poison into the food by which they came by their deaths. In reply to the questions put to her by the magistrates, in the presence of head-constable Nicholson, she confessed that she had put the poison into the water in the pot, before the meal was put on to make the stirabout. She did so, she said, at a time when her mother had her back turned. She stated that she had procured poison twice for the purpose—first, in last March, and again more recently. She had procured it on both occasions by saying she wanted it *for the destruction of rats*. The magistrates, having received her confession, immediately made out her committal, and she was forthwith brought in custody to Wexford gaol, and fully committed for trial at the next assizes."

### MESMERIC SURGERY.

A SURGICAL operation performed by Dr. Loysel, at Cherbourg, on the 27th of May last, upon a mesmerized patient, has produced in that place an extraordinary sensation.

The particulars, as they appeared in the *Journal de Cherbourg*, signed and attested by the Sous-Préfet, the maritime authorities, the principal medical men, and many distinguished inhabitants of the place, who were present at the operation, are as follows:—

"At 40 minutes past 4 P.M. of the day above named, Dr. Loysel, assisted by Dr. Gibon and three other medical men, performed, with remarkable talent and complete success, the operation hereafter described, upon a patient named François Bayssett, aged 18, who was previously placed in a state of mesmerism and absolute insensibility.

"At 4 o'clock, the patient, being placed in an arm-chair, had been brought in to the necessary state by M. Delente, by whom he had already been several times mesmerized. After about two minutes, the eyes of the patient closed by degrees; the upper eyelids, agitated by a gentle trembling, rested firmly against the ball of the eye, which appeared convulsed under the eyebrow; the muscles of the neck gently relaxed, the head inclined backward, and rested upon the back of the chair. The patient held his arms crossed upon his chest, and his countenance bespoke the most absolute quietude. At this juncture the mesmerizer experimented upon the sensibility of the patient by puncturing his flesh repeatedly, but of which he appeared quite unconscious.

"In the meantime, Dr. Loysel had prepared his instrument, and the medical assistants were ready to aid the operator. At 4h. 40m. the first incision was made, extending from the hinder part of the left lower jaw to beneath the symphysis of the chin. The operator then dissected with great caution and speedily eradicated a mass consisting of seven glands united, of which the largest was of the form and size of an egg. The first dissection, notwithstanding the skill with which it was executed, did not last less than 10 minutes, and during that time the patient continued in a state of utter insensibility to pain, his features manifesting no motion, but continuing perfectly calm to such a degree as to denote the total absence of the smallest suffering. Nevertheless, several of the spectators, unable any longer to endure the sight which this dreadful operation presented, quitted the apartment. The pulse, of which the state was ascertained previous to the operation, remained the same during and afterwards (84), and the heavings of the chest continued in a regular manner, and in perfect harmony with the beating of the heart. After an interval of a few minutes rest, the Doctor made a fresh incision on the right side, extracting in like manner two other glands, the patient remaining the same as during the first operation, maintaining a state of calm immobility altogether inexpressible.

The two operations lasted altogether, including the interval of repose, 29 minutes. After which one of the spectators, who appeared particularly interested by this phenomenon, questioned the patient in the following manner:—How do you find yourself?—Quite well, Sir. Do you suffer now; I saw you suffered but a little while ago?—Not at all, Sir. At 31 minutes after 5 the dressing of the wounds commenced, which continued till 3 minutes before 6, when it was accomplished; then everything calculated to make a disagreeable impression upon the patient was removed from the apartment; and, having washed and adjusted his dress himself, he was awakened by his mesmerizer in less than a minute.

"Restored to the ordinary state of life, with all the apparent calmness of a comfortable existence, the patient declared to the numerous witnesses of the operation, who interrogated him upon the subject, with a lively emotion, that he had no knowledge or recollection whatever of what had just passed, that he was free from pain, and that, without the bandages which enveloped his head, he should have had no idea that the operation had been performed; and after having affectionately thanked the operator, the mesmerizer, and the medical gentleman. he retired and proceeded on foot, and without any support, to his residence at Egneurdreville, about half a league from Cherbourg."—*Times*, June, 13.

### CAUSE OF THE SUCCESS OF QUACKERY.

No one can for a moment doubt that the practice of medicine, like that of agriculture and every other art, must be benefited by a knowledge of the laws which govern the objects it embraces. Yet it is not an uncommon thing at the present day, to find men totally unacquainted with the first elements of human physiology undertaking the practice of the most difficult of professions. In other arts, failure is the inevitable result of ignorance; and men find it necessary, in order to succeed, that they should keep up with the knowledge of the day. Why, then, is it not so with medicine? Unfortunately for those who practise this art in earnest, the public are not able to judge of the results of their treatment. It is supposed that the human body presents no greater complication than an ordinary piece of machinery; that its derangements are as simple; and that a person who gets rid of a disease under the treatment of a homœopath, hydropath, or regular practitioner, has assuredly got well *because* of this treatment, as a watch goes right because of the treatment of the watchmaker. Now in this fallacy lies, not only the confidence of the public in the empiric and impostor, but also much error on the part of the educated practitioner. The human frame is, in fact, infinitely more complicated than the most compound piece of human machinery. It depends for its healthy action upon a vast number of causes—only a few of which have been arrived at by the most skilful practitioners of the art of medicine. In the majority of diseases, only a distant approximation can be made to a correct estimate of their causes, remote and proximate. The action of medicines themselves is only imperfectly understood; and the list of remedies successively adopted and rejected by the most skilful of medical men proves how little is certain even on this point. In addition to all this, the human system has in itself an immense recoverable power, whose agency it is often most difficult to calculate; and which certainly only those who administer trecillionths of grains of medicine are in a position to estimate. If we add to this the fact that each individual is placed in peculiar circumstances; that he is endowed with a mind acting powerfully on the body; and that in no two cases can it be said that the external circumstances, mind and body, are the same,—it must then be evident that the diseases of the body must be treated on general principles; and that only in a limited range of cases can the experience of previous cases be made especially to bear on a new one. That this is really the position in which they are placed, even all medical men do not suspect; and our medical literature abounds with details of cases successfully treated by opposite modes of treatment. The facts in such works are carefully enough stated, but the conclusion of the writers, like that of the public in the cures of empirics, is wrong; other causes, and those not alluded to at all, are the agents of cure.—*Athenæum.*

### DEATH OF M. AIME' BONPLAND.

Intelligence lately brought from South America, announces the death of M. Aimé Bonpland, the celebrated naturalist, and former companion of Alexander von Humboldt in his travels in the New World. It is nearly fifty years since M. Bonpland sailed for South America in company with M. von Humboldt. He returned for a short time to France, but soon re-embarked for Buenos Ayres, proceeded into the interior, and settled himself for some time at Candelaria on the southern side of the Paraná, in the territory of Entre Rios. Here he industriously occupied himself in farming plantations of the *Yerba* or Paraguay tea. Towards the close of 1821, his establishment was destroyed, and he himself was taken prisoner by the Dictator Francia. He was kept a prisoner in Paraguay for ten years, but was finally allowed to settle in Corrientes, where he lately died.

## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

FRIDAY, *June* 12.—P. H. West.—J. E. Watson.—J. Smith.—J. D. Simmie.—A. M. Young.—J. Whicher.—J. T. Rowland.—E. Reckitt.—W. H. Ransom.—J. Masters.—G. M'Carthy.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *June* 11.—Michael Walling, Kendal, Westmoreland.—John Kempthorne, Bodmin, Cornwall.—Lewis Bossy, East Road, City Road, London.—Henry Isaac Fotherby, Louth, Lincolnshire.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, June* 6.

| BIRTHS. | DEATHS. | *Aver. of 5 yrs.* |
|---|---|---|
| Males.... 636 | Males.... 456 | Males.... 493 |
| Females . 673 | Females . 376 | Females . 475 |
| 1309 | 832 | 968 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129. *Population, in* 1841, 1,915,104.)

| | |
|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. (Pop. 301,326) | 119 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... (Pop. 366,303) | 142 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ..... (Pop. 374,759) | 171 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ..... Pop. 393,247) | 175 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ..... (Pop. 479,469) | 225 |
| Total ..... | 832 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Springs; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 832 | 892 | 968 |
| SPECIFIED CAUSES ..... | 829 | 886 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 121 | 162 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 86 | 98 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 154 | 155 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 284 | 271 | 294 |
| 5. Heart and Blood-vessels ..... | 25 | 26 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 70 | 65 | 72 |
| 7. Diseases of the Kidneys, &c... | 12 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 11 | 9 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 14 | 6 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 2 | 1 | 2 |
| 11. Old Age..... | 33 | 60 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 17 | 25 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | | Convulsions .... | 32 |
| Measles ..... | 4 | | |
| Scarlatina ..... | 10 | Bronchitis ..... | 28 |
| Hooping-cough .. | 44 | Pneumonia..... | 50 |
| Typhus ..... | 32 | Phthisis ..... | 171 |
| | | Dis. of Lungs, &c. | 12 |
| Dropsy..... | 8 | | |
| Sudden deaths .. | 4 | Teething ..... | 3 |
| | | Dis. Stomach, &c. | 8 |
| Hydrocephalus .. | 35 | Dis. of Liver, &c. | 11 |
| Apoplexy..... | 29 | | |
| Paralysis..... | 23 | Childbirth ..... | 8 |
| | | Dis. of Uterus, &c. | 1 |

REMARKS.—The total number of deaths was 60 below the vernal and 136 below the annual average. The deaths from Zymotic diseases, with the exception of hooping-cough and typhus, were much below the averages. The mortality from phthisis was above the averages. In all the districts, the mortality was below the averages.

## METEOROLOGICAL SUMMARY.

| | |
|---|---|
| Mean Height of Barometer ..... | 30·03 |
| „ „ Thermometer[a]..... | 64·6 |
| Self-registering do.[b] ..... | max. 116·5 min. 36· |
| „ in the Thames water. | — 71· — 63· |

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was 5·9° above that of the mean temperature of the month (58·7°). The extreme hebdomadal range in the self-registering thermometer was 80·5°. The maximum height in the sun was 116·5° This is a little above the ordinary summer temperature of Central Africa. The highest temperature observed in the shade was 83·9°. A correspondent in Paris informs us that about the same period, the thermometer stood in the shade at 30° R. = 99·5° of Fahrenheit. In the sun it has been seen in that city as high as 45° R. or 133° of Fahrenheit,—a temperature as high as that which has been met with in some of the Oases of the African Desert.

## NOTICES TO CORRESPONDENTS.

Our correspondent at Southampton will perceive, by referring to page 1063 of the last number, that his request has been anticipated.

The circular which we have received respecting the foundation of a Ladies' Charitable Institution at Birkenhead, can only be inserted as an advertisement.

Mr. Cæsar Hawkins's lecture and the continuation of Dr. Wardell's paper will appear next week.

Mr. S. Lowe's case has been received, and will have early insertion.

The letter of "Inquisitor" will be inserted in the following number.

RECEIVED.—Mr. T. W. King.

ERRATUM.—In the report of the Medical Inquest, at page 1059 of our last number, col. 1, 30 lines from the bottom, for "It is not at all probable," read "*improbable.*"

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## Lectures.

SUBSTANCE OF A

# CLINICAL LECTURE,

*Given at St. George's Hospital,*

By Cæsar Hawkins, Esq.
Surgeon to the Hospital.

May 26th.

1. *Caries of Lumbar Vertebræ — Abscess of the sacro-iliac joint—Dislocation of the hip.*
2. *Caries of lumbar vertebræ — Lumbar and psoas abscess—Hæmorrhage, &c.*
3. *Caries of dorsal vertebræ — Angular curvature.*
4. *Caries of cervical vertebræ—Paraplegia and spasm of muscles.*
5. *Caries of dorsal vertebræ — Sudden paraplegia.*
6. *Abscess in inguinal canal—Disease of spine (?).*
9. *Abscess of nates—Disease of spine (?).*

In a former lecture, gentlemen, I brought under your notice eight or ten cases of disease of the knee-joint, thinking it sometimes useful to compare several cases of diseases of the same part, or of the same disease in different situations, to see in what particulars they agree with, or differ from, one another in their origin, or symptoms, or treatment. There is another subject, which is equally important, because it is so common that you will every one have constantly to treat it; namely, disease of the spine, of which I have nine or ten cases now under my care, each presenting some peculiarity even when the disease is the same, and some of them having the same symptoms, although the affections which produce them are very dissimilar: I propose to bring some of them under consideration to-day, and the others perhaps on a future occasion.

The diseases of this part of the body may influence either the spinal marrow alone, or the spinal column alone, or both together; and of the diseases of the spinal column there are three varieties, which you will generally recognise: first, ulceration of the intervertebral substance, which is analogous to the ulceration of the cartilages of the joint; secondly, a comparatively healthy inflammation and caries of the bodies of the vertebræ, in which there is often hardness of the bone around the caries, or new bone deposited on the surface, as in the preparations before you, and very little distortion, or loss of substance, both diseases commonly arising from a blow or strain; and thirdly, scrofulous caries, in which there is softening of the bones, with deposit of the peculiar cheesy matter of scrofula in the cancelli, as in the analogous disease of the heads of the bones in the joints; this deposit being the result of unhealthiness of the blood, and the consequent separation of ill-formed lymph in various textures by the capillaries. It is to the scrofulous disease that I purpose to confine our attention in the first instance, of which there are various examples; and I will first take two cases, in which you have watched the disease up to its final termination, and seen some very curious effects; one of these having been fatal two or three days ago, and the other patient not having many days to live.

I.—The first case is that of Thomas Baggett, æt. 21, who was admitted on the 14th of January, with the following history. For the last nine years he has been subject to the formation of scrofulous abscesses in the glands of the neck, the hands, and arms, &c.; and in this you see the evidence of that taint of the whole system on which the spinal disease also depends; and then, as you might expect, such a succession of abscesses, which are the result of constitutional debility and mal-assimilation, itself aggravates the bad state of the system by the irritation and waste which the abscesses produce.

In April last he experienced pain about the *left* hip, running down the inside of the thigh, which continued to increase till the end of November, when he gave up work. He describes it as a sharp shooting pain. He has also some dull pains in the lower lumbar region, and in *both* groins, particularly the left, and he cannot walk without a stick. There are old cicatrices in the neck, and a large one in the *right* nates, which was the result of a large abscess sixteen months ago, and which I almost thought, from its situation, might have been a spinal abscess, making its way out of the sciatic notch; but it proved to be only external to the pelvis. There is some fulness and pain above the left iliaco-sacral joint on the left of the spine; there is a scrofulous abscess on the outer side of the left forearm, and abscess and swelling of the soft parts along the metatarsal bone of the second finger of the right hand, apparently not leading to bone.

You will observe, that pain is referred in this case to both groins: with regard to the left this is of importance, as we shall afterwards see, in connexion with the hip-joint, which was diseased when he died; but as to the right groin no psoas abscess was found on that side except close to the spine, and therefore the pain in the groin was only nervous, from the irritation of the upper part of the nerves near the spine.

Now it often happens that such a pain is

felt in disease of the spine; and as the patient limps, and cannot straighten the hip-joint perfectly, because it drags on the psoas and iliacus muscles, and there is no reference made to the spine in the absence of pain of that part, the affection is not unfrequently mistaken for commencing disease of the hip-joint; just as the knee-joint is supposed to be affected, and is blistered, when the real disease is in the hip-joint. The other symptoms of the disease of the hip being absent, a little care in examination of the hip and spine will enable you to ascertain where the actual disease is situated.

You observe, next, that the note on his admission, of fulness in the left lumbar region, is changed on the 23d for apparently some collection of fluid in the left lumbar region; the suspicion of abscess is changed into a certainty; and on February 4th perspiration is noticed, and on the 23d I was obliged, as he suffered much from it, to open the abscess which had formed, and was going down the back of the sacrum, and let out some thick pus, deeply situated, and two or three days afterwards it was clear from the quantity of pus which came out from coughing, and from the depth to which the probe passed above the spine of the ilium, that the matter came from within, and was not connected with the outside of the innominatum or sacrum, which its situation made very possible.

In the next place, it is noted on the 23d January, a few days after his admission, that he had cough, and expectoration and dulness on percussion over both lungs, and on the 28th that the muco-purulent expectoration was flocculent, not unlike that observed in the early stage of phthisis; and he continued to be more or less troubled with these symptoms during the whole time he lived. You will often find this circumstance in patients, who are confined to-bed by chronic complaints of this kind, and from their emaciation, and the rigors and the perspiration often present, and the whole appearance of the patients, you will often think they must be labouring under tubercular disease. It has been exactly the same in his fellow-sufferer, Critcher, and yet I do not know that there is more reason than in this man to suppose that there are tubercles. You saw, on examination, that the lungs were quite healthy, except that a portion of the back part was œdematous.

This poor man gradually got worse, and the notes of the case do not require much observation. On March 20th it is observed, that there was some sloughing of the trochanter threatened, and he was placed on the water-bed, and he derived from it the same advantage as so many patients experience from this admirable invention of Dr. Arnott.

Having often had pain in both groins, on May 4th the notes refer to some more swelling in the left groin, from the increase of inflammation in the psoas abscess, and attention was directed to much pain in the groin and hip, when it is moved, or pressed in any way, the pain being, indeed, apparently very great; he gradually got weaker from pain, and discharge and irritation, and died on the 22d, four days ago.

Besides the state of the lungs, which I have already mentioned, the only visceral disease observed was a large and somewhat fatty liver. The two lowest lumbar vertebræ were carious to a slight degree on each side of their bodies, and there was an abscess on each side communicating with the diseased part; that on the right side was small, and only extended a little way down the psoas muscle, which was not raised or discoloured on its surface; on the left side the abscess near the bone had discoloured the psoas muscle, and passed down to the ilium, the whole of which was covered with matter both on its outer and inner surface, the bone having only a thin covering, like lymph, in contact with it; the matter passed through the sacro-iliac joint (which was destroyed) and above the brim of the pelvis to the cavity on the dorsum of the ilium; and in front the pus passed under Poupart's ligament on the inside of the vessels to the hip-joint, which was also destroyed, and filled up, as you see, in some measure, by soft substance, the head of the femur being dislocated, and lying on the dorsum of the ilium in the abscess there situated.

There was thus a most complicated combination of suppurating cavities connected with the disease of the spine, the abscesses from which make their escape in many different directions, as the other cases show. The dislocation of the hip-joint, with the amount of solid deposit in the acetabulum, suggest the lesson of endeavouring, whenever this joint is diseased, to endeavour to keep the limb nearly in the extended position, so that the head of the bone may not rest on the shallowest part of the socket in the line that the gluteal muscles can most easily act on it. Unfortunately, the bent position is that which many persons with disease of the spine and of the hip are obliged to adopt, as it relieves them of very much suffering, and when this position has been kept up for a long time, you are sometimes compelled, especially in children, to give up the attempt to alter it, on account of the intolerable pain which it occasions.

The dislocation of the hip in consequence of disease of the lumbar vertebræ is a remarkable circumstance, and yet it has been, I believe, occasioned by it; and perhaps you will find it also, when the other patient,

Critcher, dies. There may, of course, be a scrofulous disease of the spine and hip, simultaneously but independent of each other, just as this patient had also scrofulous abscesses in several other parts of the body; but in Baggett, the contact of the matter after it followed the course of the psoas into the thigh, has, in my opinion, occasioned the disease in the hip, and perhaps as lately as the beginning of the present month, when the pain on moving the joint became so severe, which it was not at first; and in Critcher, also, the symptoms became worse when the hip-joint inflamed from the same cause. In Baggett, you find that the sacro-iliac joint has also been destroyed from the same abscess, and thus both the joints open into the same extensive abscess, beginning at its highest part, the carious lumbar vertebræ.

II. The next case for consideration is that of Henry Critcher, who lies in the next bed to that in which Baggett lay: I may observe, by the way, that I was sorry to see them thus placed in the last few days before this man died, and I cannot approve of the plan of collecting together several cases of the same kind; patients are too acute not to recognise the similarity of their complaints, and to know, when they see others dying around them, that their own turn is coming; it necessarily occasions in some a despondency, which hastens their own end, while it creates in others, when the scene is often repeated, a recklessness and hardness of mind, which in a moral and religious point of view is, at least, as undesirable as the other feeling. The age of this man was 23, nearly that of the last patient: he was admitted on the 27th of August last, and the notes say, when he is laid straight on his back there is some prominence of the left knee, but no shortening of the limb; some fulness of the left groin, both above and below Poupart's ligament; considerable pain in the groin, and down the inside of the thigh, when the knee is pressed down; the pain seems to depend on the extension of the psoas muscle; no pain in the hip-joint. When the whole body is twisted by the shoulders he feels pain in the left lumbar region, but none is produced by direct concussion.

His account is, that about 20 weeks since, being then in perfect health, he got wet through; this was followed by pain in the lumbar region, and about twelve weeks since he had a shivering fit, and afterwards perceived some fulness about the groin. Soon after the cold he experienced pain in making water, referred to the neck of the bladder and left side of the loins, and he has been living very poorly of late.

The progress of the case has been in so many respects similar to the last, that I shall not do more than comment on what has been most worthy of observation.

The most common course for the matter of diseased spine to take is that which is determined by the least resistance or by gravity; you have, therefore, in Critcher two psoas abscesses, one on each side, and one lumbar abscess; and you can frequently see them alternate or change in the course they point at. While a person is moving about the matter gravitates towards the groin, but when lying on his back in bed, the passage by the side of the quadratus is the most dependent situation. I have been, however, obliged to open the cavity on one side in the loins, and on the other in the groin; not, however, on the inside near the insertion of the psoas, where the pus has made its way both in Critcher and in Baggett, but on the outside of the groin immediately to the inside of the anterior superior spinous process, where you may see a great cavity covering the iliac muscle, and pumping matter out in great quantity when he coughs, or inspires deeply.

You have observed me postpone opening these abscesses for a long while, and not do so till I was obliged, by the more rapid increase of matter. The abscesses, depending on disease of the bone or intervertebral substance, cannot heal while the disease is still advancing, so that the longer time you can give for rest, and your other remedies, to make the caries lessen or cease, the more chance there is of the abscesses healing: nor is this all, but the life of the patient is often put in imminent danger by the act of opening them, which is sometimes immediately followed by great inflammation of the sac, with a risk of absorption of pus, and the formation of secondary abscesses. You cannot avoid opening them, however, when the abscesses are extending far, and increasing rapidly, or are very painful, nor if perspirations or rigors shew that the constitution is suffering from confinement of matter; the latter symptom, however, the shivering, being a very bad one, as it indicates a state of irritation that makes inflammation very likely to ensue. In Critcher all these local and general signs made the opening of the abscesses necessary; and the first time you may remember that there was no inflammation, and he was for a time much relieved by letting out the collection, which was pointing in the right loin; another time, however, there was inflammation after the puncture, and he became worse in health. I may observe, that the opening in the loin is the most dependent, while the patient lies in bed, and even when he becomes well enough to move about it often affords a more direct exit for the matter than an opening in the groin, which is so far from the vertebræ.

You have seen in Critcher, as I have already mentioned, the same cough and muco-purulent expectoration from congestion in the lungs as were present in Baggett; and you have also observed the production of the same disease in the left hip-joint, the matter having gravitated quite to the back of the inside of the thigh round the head of the bone, in addition to its pointing, where I opened the abscess on the outer part in front; and his suffering has been very considerable since the hip-joint inflamed.

There took place on two occasions a considerable hæmorrhage from the abscess on the left side; the first time it was restrained by plugging the orifice in my absence. This, however, is not what you are to do, as it prevents the blood escaping outwardly, but occasions very little pressure on the bleeding vessels of the surface of the abscess, and the lodgment of coagula in its cavity excites these vessels still further by irritation, and moreover the blocking up of the orifice makes the blood and matter enlarge the abscess. What you are to do when there is hæmorrhage from an abscess is to enlarge the opening freely, so as to take away all tension and irritation from the bleeding vessels, which are commonly small ones in every part of the surface; they can then contract and retract, which they will not do when in a state of irritation. And even if the bleeding happens to be from ulceration of the vessels of the orifice, its enlargement is then also the best means of enabling the vessels to close, just as you stop the hæmorrhage from a puncture of the temporal artery in bleeding by dividing the vessel transversely; and if they do not contract, you have room for finding the source of the hæmorrhage, and tying the vessels. I once opened an abscess, and came into the ward above, and before I had time to return, in a minute or two, many ounces of blood had been lost; but by making the opening larger, the vessel, which was at the corner of the orifice, immediately contracted and closed, which it could not do when half divided.

There is only one other point to which I will allude in this case, which is this. I yesterday found the discharge very copious, and quite brown and dark in colour, looking like fæcal matter, which the nurse said she had suspected for several days, though I could not perceive any fæcal smell, nor does any air come out of the wound. Of course there is nothing unlikely in an abscess making its way into the bowel as it does into the hip; I have seen it do so, and I have known an abscess burst into the bladder with very great hæmorrhage. It so happens that the nurse in another ward thought the same thing had occurred in Raggett, but examination after death shewed that the intestines were quite safe. The colour arises, in an unhealthy abscess, from admixture of blood, and is sometimes changed by a freer orifice, sometimes by some medicine given to the patient.

Both these cases came under treatment after abscesses had formed, and the disease had proceeded too far for a cure to be effected: it is not often, indeed, that any adults recover after suppuration has actually taken place; but occasionally it may happen, or at least after fluid has formed which appears to be purulent, but which may possibly be serous in some measure. A gentleman is now under my observation, in whom fluid formed at least ten years ago, on the side of the spine, and it has never disappeared, though it varies in amount, the spine, which is much distorted, being strong enough, since the disease ceased, for all purposes.

III. In neither of these two cases has there been any alteration of the figure, the amount of absorption of the affected bone being small; in the next case there is much loss, but no formation of pus.

This patient, Edward Carpenter, who is nearly of the same age as the others, viz. 25, was admitted on the 15th of April, with projection of the ninth and tenth dorsal vertebræ, the ninth being most prominent; he has no pain nor any tenderness on percussion or pressure. The scapula and trapezius of the left side are elevated, as a result of an alteration of the form of the chest, and there is a slight degree of puffiness between the spinous processes and posterior border of the scapula. There is no cough, and he has perfect power over the sphincter ani and vesicæ. Pulse quick and weak, and he is pale and weak in appearance.

About six or eight months ago he first found projection of the spinous process, which was to about the same extent as it is now, with weakness of the back when walking, and within the last week the legs have become weak and rather painful. He never had a blow or strain, and says he has always enjoyed good health.

Here, then, there is considerable projection of two spinous processes, which makes the exact situation of the caries evident, while there was nothing in the other cases to point exactly to the vertebræ affected. As in many scrofulous cases, he has no pain; and in him you observe, what the other cases were free from, a slight affection of the spinal marrow, which is shown by the weakness and pain of the lower limbs. As there is not any apparent suppuration, there seems to be no reason why this patient should not recover, the distortion of course remaining. It will require total rest, probably for a year, to subdue the disease and favour anchylosis, and, besides

this, we must endeavour to strengthen his constitution by good living and tonics; he is taking, in fact, porter and bark. The only doubt I have had with regard to his treatment has been whether I should employ caustic issues or not. It is very seldom, however, that caustic issues are called for in scrofulous caries of the bones, and almost never in children; in whom the irritation they occasion has a debilitating effect, which aggravates the badness of the constitution to which the origin of the disease is attributable. It is in the ulceration of the cartilages in the joints, and by analogy in the disease of the intervertebral substance, that they are chiefly indicated, and therefore, as yet, with an entire absence of pain, I have abstained from ordering them; but I shall do so, perhaps, if he complains of it hereafter.

IV. The next case for our notice is William Wallington, æt. 9, who was admitted January 14th, with partial paraplegia. Four or five years ago, he says, his back began growing out, since which time his mother had noticed the same thing, and six months ago took him to a dispensary; he never had any pain in the back; three weeks ago his legs began to give way under him, and in a short time he could not walk or stand without support; there was no pain in the legs, and when lying down he can throw them about, and there is no loss of sensation. At the same period there came on some difficulty in making his water, so that when urged to do so he could not pass it for some time; and there is constipation. There is some slight pain on pressing the lower lumbar vertebræ, and some prominence of the upper lumbar, and of the seventh cervical vertebræ.

Here, then, we are presented with a farther effect of scrofulous caries of the spine, namely, not weakness only, but a very considerable loss of power over the voluntary muscles of the limbs, and over the bladder and the rectum also. Paralysis is much more common in children than it is in adults, partly because the smaller size of the bones, and the greater amount of absorption by the caries, make the irritation of the disease more easily reach the meninges, and partly because there is in them a greater amount of deposit of scrofulous matter which makes direct pressure on the spinal marrow. You will sometimes see a considerable swelling from this cause about the affected part, which is obviously not suppuration, and is gradually absorbed, when the disease admits of cure; in this preparation you may see a large swelling of solid matter, which was fatal by its pressure within the canal.

A second circumstance which you may observe is, that the entire absence of pain in scrofulous caries may be a disadvantage, since it may lead to the disease of the bones being overlooked, or to a difficulty in ascertaining its exact situation. I remember a child who was admitted with paraplegia, and no apparent distension or tenderness, and so entire a freedom from pain that it used to be an amusement to the pupils to see him voluntarily tossing himself head over heels in the bed, which was done in a singular manner, in consequence of the total loss of power over the lower limbs;—the case appeared, therefore, to be one of infantile paralysis, from affection of the spinal marrow; but, by and by, an angular curvature took place in the dorsal vertebræ, with fatal abscesses. In Wallington, it seemed probable that there was caries; but a degree of prominence in the loins, and the fact that this part alone was painful, made me inclined to think that the slight prominence noticed in the neck was only the natural projection of the so-called vertebra prominens. Accordingly the child was kept at rest, and had bark given it, with a small blister or two in the seat of pain, and on the 30th, the notes say, "Improved in health, and he can stand firmer on the legs." I did not much examine him, as he seemed improving slowly, till a change took place for the worse in about a month; and, on March 6th, it is observed that the power over the lower limbs is decreased; they are always in a state of contraction, and the muscles of the abdomen are hard and stiff, and he has pricking sensations, occasionally, in the hands and arms, and a few days afterwards—the power over the extremities rather decreasing than increasing—the upper being also somewhat implicated; he cannot place his legs flat in bed, and it required some force to press them down, when thus spasmodically bent. At the same time you might have observed the reflex functions exceedingly energetic, so that if you pinch the calf of the leg or thigh, the leg is thrown up with violence, without any power of control. And now that attention was again drawn to the spine, by this increase of effect on the spinal marrow, it was observed that there was much prominence of the fifth and sixth cervical vertebræ, with pain about the part when pressure was made on the occiput—a symptom which was absent when he first came in, but is a very characteristic sign of caries in the upper part of the spine; and, again, a few days afterwards, the notes say, the head is apparently sunk forwards and downwards on the shoulders, the neck being, in fact, shortened, and the chin carried in front of the usual line.

This boy's case is the only instance in which the cervical vertebræ are affected, and there is a remarkable difference in the effect on the limbs when this part of the

spine is diseased. In this case the lower limbs are destitute of voluntary power, while the action of the upper extremities has scarcely been interfered with at all, and that only for a short time. On the other hand, the sensation of the lower limbs has not been at all impaired, while in the upper, which have not been paralysed, there are some pricking sensations, and they have been somewhat numbed. In other cases all the four extremities are nearly equally paralysed, and there is no voluntary power below the neck. In others, again, the upper extremities alone are paralysed, while the legs can be moved at will. When the arms alone are affected, you may generally expect that the cause is some deposit or effusion around the nerves after their coming off from the spinal marrow; — on the other hand, when the legs are paralysed, as in our little patient, but the arms retain their power, we may conclude that the spinal marrow is affected by irritation and vascular excitement, or by pressure.

You may, perhaps, feel inclined to ask, if persons with so much caries of the cervical vertebræ as in this boy can ever recover completely? Certainly, I think, fewer recover from the disease in this part of the spine, than when it is situated in the back or loins, yet they will do so sometimes in bad cases. A girl under my care was obliged to be carried into the hospital with perfect paraplegia of all the body below the neck, and with a good deal of fever, and the dropping forwards and downwards of the head and four upper vertebræ was much greater than in this boy, so that the chin was actually lower than the upper part of the sternum, and there was much swelling round the neck; nevertheless, in a few weeks, by rest, and some blisters and proper medicine, she quite recovered the use of all the limbs, and although the deformity was very considerable, from the malposition of the head, she grew up strong, and ten years afterwards continued without relapse.

In our patient, also, there is no suppuration, and his health is good; in fact, he has been getting almost too fat lately, and recovery is by no means improbable if he avoids abscess. He has had two blisters on the neck, which have caused no irritation, and the power over the legs has a little increased, and the joints are not quite so firmly contracted; and it is noticed that the right leg is less affected than the left. The difficulty in evacuating the rectum continues troublesome, for which he takes colocynth and scammony, but he empties the bladder readily. I yesterday ordered him sarsaparilla and some iodide of potassium, instead of the bark which he formerly took.

V. In the next case we witness a still greater degree of influence on the spinal marrow, and the case is remarkable from the instantaneous occurrence of the palsy.

Charles Hayward, æt. 7, admitted on the 6th of this month, with some lateral distortion of the spine, and very great angular curvature of the 9th, 10th, and 11th dorsal vertebræ, making the body and neck to project a good deal forwards; in fact, nearly to a right angle with the upper part of the chest, which is deformed; and the bones of the upper extremities connected with the chest are small and placed unnaturally, from the altered form of the chest. He has no power of motion over the lower limbs, but sensation and the reflex movements remain perfect. There is incontinence of fæces and of the urine, which is highly alkaline, and loaded with pus. There is no pain at the seat of curvature. The abdomen is tumid and distended, and he has slight cough. There is a large slough, the size of a five-shilling piece, over the trochanter major, oval in form, and the urine, from constantly dribbling away, has excoriated the penis and scrotum. He is of a pale scrofulous aspect.

He says that when he was four years old he had a fall on his back, and the caries and curvature then commenced; but he has had some incontinence of urine from his birth. At Easter, the curvature having become considerable, he was knocked down on his back by a dog, and when he was taken up he found that he had lost the use of his limbs, and the incontinence of fæces then commenced.

Here, then, I presume that the destruction having become very great, the fall he describes broke down some soft substance and ossific matter, which instantly brought the remaining surfaces nearer to one another, increasing the angle still more, and causing actual pressure upon the anterior part of the spinal marrow, instead of the irritation which is seen in the case of Wallington. Instead, therefore, of spasmodic contraction, as in that boy, there is perfect palsy and relaxation of the parts below the seat of the disease, affecting the sphincters and the limbs. The notes remark the tumid and distended state of the abdomen, which is considerable, however, in almost all scrofulous cases; indeed, it is in the digestive organs, doubtless, that we have to look for the unhealthy and imperfectly formed blood which is the primary cause of all the local inflammations; but there is also much distress where there is loss of power over the abdominal muscles, as in this boy, in consequence of the formation and retention of much gaseous matter within the alimentary canal, which is not now subject to proper pressure. There is also, you observe, an ammoniacal and purulent state of urine, besides palsy of the sphincter of

the bladder;—this is not often the case in disease of the spinal column, though it constantly is when the spinal marrow is affected. I suspect, therefore, that the state of the urine depends in part on the same fault which appears to have occasioned some incontinence all his life; but there is also, in general, some retention of urine whenever there is incontinence, and therefore the alkalescence and the pus may arise from some lodgment of part of the urine, and irritation of the coats of the bladder from it. The notes say, in fact, just after his admission, that a catheter being introduced into the bladder, some highly alkaline and purulent urine was drawn off, mixed with blood.

In this case, also, notwithstanding the great distortion and the complete paraplegia with which he was admitted, recovery is by no means improbable, and already you may observe some improvement. On the 14th the note is,—ulcer over the trochanter much better, and granulating favourably; there is still incontinence of urine and fæces, and he has no power of motion over the legs, but his health is much improved; appetite good; sleeps well, &c.

On the 25th, no power of motion of the legs, but he has regained power over the detensor and sphincter vesicæ*.

The health first improves, you observe, and to that the chief attention is to be paid in scrofulous caries, by tonics and good living; and as his strength returns, and the part is rested, the spinal marrow may regain its power after the temporary pressure, the sphincters having already recovered their power of contraction, as is usual with these instinctive muscles, before those of the legs.

You have found, from the consideration of some of the cases, that it is not always easy to know the exact seat of caries of the spine, when you know that some of the vertebræ are affected; but further, it is occasionally difficult, with scrofulous caries, in consequence of the little pain caused by it, to know whether the spinal column is or is not diseased at all.

VI. William Willis, 23 years of age, was admitted a few days ago, (May 20th,) with a swelling half the size of an ostrich's egg, situated nearly midway between the spinous process of the ilium and the pubes, above Poupart's ligament, and running somewhat in the course of the spermatic vessels. It dilates on coughing, but cannot be lessened in size by pressing it in the axis of the pelvis. It is not painful, but is tender, and the skin over it is of its natural colour. He is of a pale unhealthy aspect, and has slight cough. On minute examination, neither the spine or hip seemed to be in the least affected, and he has never had a sore on the penis. This abscess first appeared in the month of March as a small painful lump, the size of a marble, and has been gradually increasing to its present size, and he says it is always larger when he is walking. He has had rigors and perspiration at night, and he has lost flesh lately.

The feeling of fluid, the rigors and constitutional disturbance, make it pretty certain that this swelling in the inguinal canal is a chronic abscess, as, although he has a little cough, there does not appear to be any disease in the lungs or elsewhere to account for these general symptoms. The case was sent to me, however, for a truss, as being an inguinal hernia, to which the impulse on coughing, and the enlargement from walking, give it some resemblance. A psoas abscess is also very like a femoral hernia for the same reasons; indeed, more like a hernia than this case, since an abscess of the spine coming down below Poupart's ligament can be made to recede by pressure in the horizontal position, and return again by exertion, whereas the swelling in Willis is like an irreducible hernia. When a hernia contains bowel, the sound on percussion helps you in your diagnosis; but with a swelling partly over the abdomen the proximity of some bowel to the side of the abscess gives a doubtful sound if you strike it upwards towards the intestine; by pushing the hand downwards on the abdomen, you may in some measure push away the intestine from the swelling while you tap it, so that the deception from the bowel lying in contact with it is removed. In Willis there is in this way no sound like air in the swelling. As, however, there may be fluid in the sac of an irreducible hernia, I recommend you to act with caution in similar cases, since a hernia has often been opened as an abscess; and when you open an apparent abscess, if you have any doubt, cut down cautiously into the cavity, so that you may see what you are doing, rather than plunge a lancet or knife deeply into it, lest there be any intestine concealed by fluid.

But supposing that the swelling be an abscess, of what nature is it? Now I have drawn your attention to the case along with those of diseased spine, because I suspect that this also is a spinal abscess. It is true that the inguinal canal, or abdominal wall in front, is not so common a course for an abscess to take as below Poupart's ligament, or in the loins, or the sciatic notch, but the fluid trying to pass down under the outside of Poupart's ligament below the superior spinous process, as in Critcher, will occa-

* On the 29th, three days after the lecture, no incontinence of urine and fæces, and he has slight power over the legs; wound over the trochanter healing up. The amendment to the present time, June 19, has not, however, been great.

sionally be prevented by the density of the fascial attachments, and will make its way behind the peritoneum along the spermatic cord, where there is little resistance. My reason for thinking it may be so is this; I think the iliac fossa, up to the spine of the ilium, may, by deep pressure, be felt fuller than on the other side, as if there was an abscess situated there, as in both Critcher and Bagget, with a prolongation into the inguinal canal, the covering being too tense to allow of the fluid, which projects in front, being pushed back into the interior; an abscess confined to the abdominal walls, as a glandular abscess in the inguinal canal, would be unaccompanied by such a fulness of the hollow of the ilium, and would probably by this time have reddened the skin, which a spinal abscess has less tendency to do.

I recommend you, therefore, to watch the case, as I also must do somewhat more, because, as I have already told you, I do not like opening spinal abscesses unless it is really necessary*.

VII. There is one more case to which I will draw your attention in the few minutes that remain to us, namely, that of Elizabeth Cage, 39 years of age, who was admitted on the 8th of April, with the following history. On the middle of the posterior part of the right nates is an aperture, which cannot be traced far or towards any dead bone, the skin around it being dark coloured. It has been open for a fortnight, and discharges a moderate quantity of thin pus. There is no pain in the back, and the motions of the hip seem perfect, and not attended with any pain; there is no cough or pain in the chest, but a little expectoration. There is a great deal of blood, and a watery yellow discharge with the catamenia, but no disease of the uterus or vagina could be detected on examination. She first complained of pain in the nates about nine months ago, which was never so severe as to confine her to her bed, the pain extending down the leg; and she has been much out of health since that time. The abscess gradually formed, and burst about a fortnight ago.

This woman seemed on her admission exceedingly emaciated and weak, and looked like a person in the last stage of consumption; and as the abscess, as far as it could be traced, was insufficient for such a state of health, I requested the physician to examine her; but he could not perceive any internal complaint to account for her condition.

On the 20th the notes say she was much better and stronger, with less discharge from the abscess. On May 1, however, there was an increased and offensive discharge, and I was obliged to open the cavity more freely, but the amendment to her health has not continued, and she appears to be in a very precarious state of health, but wishes to leave the hospital, which perhaps may be the best for her in her hectic state.

The cavity, in this case, passes towards the sciatic notch, and in all probability, although it is now little more than a sinus, it turns in some way towards the inside of the pelvis, and is very probably an example of spinal abscess which has passed to the back of the pelvis, and so obtained an exit through the sciatic notch, whence an abscess often turns up again, and covers the outer part of the innominatum. If it has not a spinal origin, it most probably arises from disease of the inner surface of the sacrum or innominatum, or the joint between them; the length of time it took to come forwards, and the serious inroad it has made on the constitution, being greater than would be occasioned by a common abscess in the cellular tissue.

The other cases connected with the spine are of a different nature from those we have to-day considered, and are somewhat obscure and curious, so that perhaps I may resume the subject on another opportunity.

* On the 15th of June, the abscess having become larger and more painful, and some pain having been felt in the loins, as if from extension of the abscess, an opening was made, by which he seems to-day, the 19th, to have been relieved. The pus was thick, but not very great in quantity.

## MEMORANDA FOR CONTAGIONISTS AND NON-CONTAGIONISTS.

Dr. G. B. de Borsa, of Verona, in his Essays on Theoretical and Practical Surgery, quoted in the Medico-Chirurgical Review, states, that a young woman suffering from small-pox was delivered of twins in the hospital, one of them having numerous finely-developed pustules, while the other was entirely free from the eruption. "What," inquires the author, "will the deniers of the possibility of contagion acting upon the fœtus in utero say to this case? I would explain the fact of the one child not becoming affected by the absence of predisposition." Certainly not a very satisfactory explanation, especially as applied to the fœtus in utero.

Noble, in his Memoirs of the Cromwells, vol. i. page 56, says, "that Major Cromwell died of the plague at Ramsey, Huntingdonshire, on the morning of February 23d, 1666, and was buried next evening in the church there. He caught the infection by wearing a coat the cloth of which came from London; and the tailor that made the coat, with all his family, died of the same terrible disorder, as did no less than four hundred people in Ramsey, as appears by the register, and all owing to this fatal coat.

## Original Communications.

### REMARKS ON AMORPHOUS QUININE.

*(From a Correspondent.)*

In the very interesting and important paper recently published in the Medical Gazette, from the pen of Professor Liebig, upon Amorphous Quinine, allusion is made to some papers published several years since by Dr. Sertuerner, and by Messrs. Henry and Delondre, bearing upon the subject. These gentlemen, in their investigations, obtained a substance from the cinchona barks the nature of which they did not understand. Liebig has now explained, by the unerring basis of actual analysis, what that substance was; namely, that it was simply the alkaloid quinine itself in an amorphous or uncrystalline state. The testimony of Dr. Sertuerner, and of Henry and Delondre, on the therapeutic effects of their alkaloid, becomes, therefore, a matter of some interest, as Liebig tells us a large quantity has probably accumulated, and, if so, it may be obtained at a far cheaper rate than the price sulphate of quinine now bears in the market. We have reason to believe, that in hospital and dispensary practice, as in that of private practitioners who practise amongst the poorer classes, bark is still given, in substance in consequence of the expense of the sulphate of quinine. We know no reason why, if it is possible to avoid it, our poorer fellow-creatures should, more than the rich, be dosed with so nauseous and bulky a matter as bark is in substance, if it be possible to obtain its virtues in a less disgusting form. Dr. Sertuerner published several papers in Hufeland's Journal in the year 1829-30, on the Nature and Treatment of Intermittent Fevers, and a separate work, in three volumes, entitled, "Die Neuesten Entdeckungen, in der Physik Heilkunde und Chemie." In 1828 an intermittent had been endemic in his neighbourhood, and he tells us he found himself frequently disappointed in the use of sulphate of quinine, which he became perfectly sure does not represent the whole therapeutic efficacy of the cinchona bark. Dr. Sertuerner then turned his attention to a chemical investigation of bark itself, and first he endeavoured to ascertain what was left behind in the liquors extracted from the bark, and from which, after the addition of sulphuric acid, the sulphate of quinine is crystallized. He soon found in these mother liquors, by appropriate treatment, a substance having all the properties of an organic alkaloid, but which he was not able to crystallise. This substance he immediately set about experimenting on, as to its effects on intermittent fever, and he tells us that its efficacy far exceeds that of the sulphate of quinine, or of the bark given in substance, and that in less doses than the sulphate. In a great number of cases where other remedies had failed, he found his supposed new alkaloid succeed, and he therefore began to use it in all cases of intermittent fevers, and those protean forms of disorder caused by malaria. This success was so satisfactory to himself that he pronounces it "a true fever destroyer," and is satisfied that it, beyond all other substances, deserves the title of febrifuge. His next object was, to ascertain in what manner the largest amount of this alkaloid could be obtained from cinchona bark, and he publishes a long process by which he contrives to extract a large proportion, but in which, in point of fact, he converts the quinine into an uncrystallizable form. The testimony of Dr. Sertuerner to the superior efficacy of his supposed new alkaloid may very well be considered as of great value, since he unwittingly affords us a key to its explanation, now that we know it was indeed pure quinine he was administering. He gave the pure alkaloid with acetic acid—in a word, the acetate of quinine; and there is abundant evidence in many quarters, that with vegetable acids the effects of quinine are more certain and more striking.

Messrs. Henry and Delondre made a great number of experiments in attempting to ascertain the nature of Dr. Sertuerner's new alkaloid, but without success: they admit its efficacy as a febrifuge, but suppose that it is a mixture of quinine, cinchonine, and a yellow matter, which renders the other alkaloids uncrystallizable. MM. Razzori and Casati, of Milan, in 1829, also bore witness to the correctness of Dr. Sertuerner's remarks on the high therapeutic value of his alkaloid, without being able to make out its nature.

# MEDICAL GAZETTE.

FRIDAY, JUNE 26, 1846.

In closing the second volume of the new series, we shall, according to our usual practice, take the opportunity of addressing a few remarks to our readers and contributors.

It with some satisfaction we find, on looking back to the present volume of nearly twelve hundred pages, that rather more than one-third is occupied exclusively with *selected original contributions*, independently of lectures and correspondence. These contributions refer, for the most part, to subjects connected with medicine, surgery, midwifery, hygiene, anatomy, physiology, and microscopical pathology. It is not for us to speak of the merits of these papers: we are assured that they have been fully appreciated by our readers.

Among the foreign articles will be found, copious translations of the recent Researches of Dr. Mercier on Stricture of the Urethra, Dr. Bonino on Emphysema, and Dr. Möller on Kystein as a Sign of Pregnancy. We need not advert to the shorter selections from foreign journals, as these have been regularly printed in each weekly number, with a due regard to their importance and value in a practical point of view.

Among the *Lectures*, will be found valuable contributions on Clinical Midwifery by Dr. Lever and Dr. Oldham, on Clinical Surgery by Sir Benjamin Brodie, Mr. Phillips, Mr. Solly, and Mr. Cæsar Hawkins. Professor Faraday's Lectures on the Properties of the Metals have been completed in the present volume; and his recent course on Electricity and Magnetism has been commenced. It is our intention to publish these lectures—which will embrace the recent and remarkable discoveries made by the Professor in his researches on magnetism—once a fortnight, until the course, which consists of eight lectures, is completed.

Among the subjects now preparing for publication exclusively in this journal, we have to announce a course of lectures on Animal Chemistry by Dr. G. E. Day, the editor of Simon's Animal Chemistry; a course of lectures on the Practice of Medicine by Dr. Laycock, Physician to the York Dispensary, and Lecturer on the Theory and Practice of Medicine in the York Medical School; and a course of thirty lectures on the Diseases of Children by Dr. Charles West, Lecturer on Midwifery at the Middlesex Hospital. The lectures of Mr. Cæsar Hawkins and Mr. Solly on Clinical Surgery, those of Mr. Tomes on Dental Physiology, and of Mr. Taylor on Medical Jurisprudence, will be continued until the completion of the respective courses. We shall also commence, in the next volume, the publication of a series of papers on Diseases of the Chest, and their diagnosis, illustrated by drawings of the relative positions of the organs in health and disease, and by observations in Microscopical Pathology, by Mr. F. Sibson, Resident-Surgeon of the General Hospital, Nottingham.

This announcement will enable our readers to judge of the extensive support which this journal continues to receive from the profession; and if any further proof were required of the great value attached to these original contributions and lectures, it will be found in the fact, that a large number of the papers are speedily translated into the German and French journals.

One word upon the *Review* department. In the present volume we have published reviews of no less than sixty-seven works, embracing all branches of medical science, and giv-

ing a fair picture of its progress both in this country and on the continent. We believe we may truly say that the MEDICAL GAZETTE is the only weekly journal in which the most important foreign works are regularly noticed. Our readers will observe that not a single number of the volume has been allowed to pass without the insertion of one or more reviews of books; but in spite of all our efforts to keep pace with the rapidity with which medical works are published, we are still in arrear with the productions of many authors. One cause for the delay in the insertion of these notices, is, that we find it impossible to assign more than a certain space weekly to this department of the journal. Care will be taken, however, that every book forwarded shall be fairly reviewed, and the review inserted as early as our arrangements will permit.

We must not omit to notice that a prominent space has been assigned in this volume to *Proceedings of Societies* and *Hospital Reports*. The season for the meetings of the Metropolitan Medical Societies has now nearly closed; and we shall therefore have a greater space for the admission of Hospital Reports and Clinical Lectures. Of the former a series is now in preparation for the LONDON MEDICAL GAZETTE, from St. Bartholomew's Hospital. These reports will be furnished to us by Mr. Luther Holden.

It is our intention to carry on the journal on the principles on which it has been hitherto conducted. We intend to pursue an independent course, and to bind ourselves to no party in the profession. Experience has taught us, that although very exciting political subjects may have a temporary interest, and give a piquancy to journalism, the greater number of our readers will be better contented to receive this as a Medical rather than a Political Gazette. All questions which appear to us to affect the interests of the profession will invariably receive due notice and examination; but we decline making our pages a repertory of all kinds of imaginary grievances or party differences. With the examples before us, of the perfect success on the continent of such truly *medical* periodicals as Casper's Wochenschrift of Berlin, and the Gazette Médicale of Paris, we cannot bring ourselves to believe that the elements for success in England are so entirely different, that journals conducted on similar principles will ever fail to receive the support of the respectable part of the profession.

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### PENDULOUS TUMORS OF THE BREAST.

AT a meeting of the Dublin Pathological Society, Dr. O'Ferral said he would again call the attention of the society to the subject of pendulous tumors. The specimen he now exhibited was removed by him from the breast of a young unmarried lady. Its growth was of ten or twelve years duration, and it had been observed before she was fourteen years of age. It sprang from a point close to the right nipple, and descended by a pedicle two inches long, and in circumference about three quarters of an inch, then suddenly expanded into a tumor of irregular figure, consisting of prominences and clefts, which gave it very much the appearance of a walnut; in size it was about double that of the fruit alluded to. The colour of the stalk was dusky red; that of the tumour was paler. From the fissures of the latter a sebaceous secretion of an extremely fœtid odour exuded. Dr. O'Ferrall here made a section of the tumor, which exhibited a margin of pale flesh tint; the central portion of a milky white colour. The pedicle contained a single artery of small size, with a corresponding vein. This tumour like those previously exhibited by Dr. O'Ferrall, presented, he remarked, no trace of malignant structure. Its consistence was uniform, smooth on section, and very little vascular. Sir A. Cooper had not described any analogous tumor in the female breast, and, as he before remarked, little was to be gleaned from the records of medicine and surgery conerning this class of productions.—*Dublin Hospital Gazette.*

## Reviews.

*The Cyclopædia of Anatomy and Physiology.* Edited by R. B. Todd, M.D., F.R.S., &c. Part XXVII. March, 1846. London: Sherwood and Co.

This excellent work still maintains the character which the publication of the previous parts has already acquired for it in medical literature. The Part now before us comprises some interesting articles extending from "*Nervous Centres*," by the Editor, to an account of the "*Par Vagum*," by Dr. J. Reid. The subject of "*Organic Analysis*" is treated by Dr. Miller, and we really do not know where the student will find a better or more concise description of the various kinds of analysis required for organic substances. Throughout this, as well as all the other articles, there is a judicious brevity: nothing is put down which has not some immediate practical bearing. In treating of organic analysis, while the descriptions are simple, the illustrations have a direct relation to what concerns the medical practitioner. In six pages Dr. Miller gives examples of the mode of conducting the proximate analysis of the urine, blood, milk, bile and saliva; and by following these, which are rarely to be found in chemical works (*results* only being given), the student cannot fail to make himself familiar with the mode of determining the existence of abnormal variations in these important secretions. Under "*Ultimate Analysis*," there is a very good description of the method of determining the quantity of nitrogen in an organic substance, by converting it to ammonia according to the method of Varrentrapp and Will. In speaking of the detection of free *sulphur*, Dr. Miller advises that the substance should be boiled with a solution of potash, and a few drops of acetate of lead afterwards addded. We think he will find it better to obtain, in the first instance, a clear solution of the oxide of lead in potash, by re-dissolving the precipitate formed on the addition of acetate of lead. This liquid should be boiled; and the organic matter then dropped into it. If sulphur be present, the organic substance, should it not happen to be very soluble in caustic potash, acquires immediately a brown or black colour; if it be soluble, the whole of the liquid becomes more or or less coloured.

The *Osseous System*, by Professor Jones, is a very interesting article in its relations to comparative anatomy. We have here a complete physiological analysis of the skeletons of the vertebrata, with a description of their peculiarities and most striking differences. The cetacea, although they live in the sea, cannot be regarded as *fish:* they are, in fact, aquatic mammalia. Some years ago, this question excited much discussion in America, on a doubt whether in law whale oil could be properly termed fish oil; and the works of the most eminent writers on natural history were put in requisition in order to settle this knotty point; but with the usual result of scientific evidence, *i. e.* of puzzling the court and jury. Perhaps one of the most remarkable differences between the skeletons of the cetacea and terrestrial mammalia, is that which is here described by Professor Jones. In the cetacea:—"the pubic elements of the pelvis only are developed, both ilia and ischia being deficient, so that they are quite detached from the rest of the skeleton. In all other mammalia they correspond both in position and general arrangement with what is found in the human subject" (p. 843). This appears to depend, as the writer suggests, upon the necessity for a fish-like flexibility in the hinder part of the body, where no hinder extremities exist. Notwithstanding this well-marked anatomical difference, we must still hold to the opinion, which we believe was triumphant in the great American case, that the term fish oil cannot correctly be applied to that which is derived from the body of the whale.

The *Osseous Tissue* is treated by Mr. Tomes with considerable ability. It will be apparent from the lectures on the teeth by this gentleman, already published in the Medical Gazette, that he is well used to microscopical investigation; and this paper on the osseous tissue is illustrated by numerous engravings, which bring before us in a clear form the ultimate organic structure of bone. The physiological account of the growth of bone is highly interesting. Mr. Tomes states from

his experiments on young animals, that in the union of fractured bones, the production of cartilage is always the first step; and it is in the centre of this that ossification commences. When motion is allowed to take place between the ends of the fractured bone, no cartilaginous tissue is formed, and osseous masses alone are produced, owing to which there can be no firm union.

The article on *Pachydermata* is also from the pen of Professor Jones. This is followed by a short but interesting paper by Mr. Bowman, on those curious and lately-discovered appendages to the nervous system, known as the *Pacinian bodies*. This part terminates with an article on the Par Vagum, to be completed in the following number.

To those who are acquainted with this work, our recommendation is not required; to others we can strongly recommend it as a most comprehensive system of anatomy and physiology.

## Proceedings of Societies.

### ROYAL MEDICAL & CHIRURGICAL SOCIETY.

June 9th.

MR. HAWKINS IN THE CHAIR.

*Observations on Venereal Diseases in the United Kingdom, from Statistical Reports in the Army, Navy, and Merchant Service, with Remarks on the Mortality from Syphilis in the Metropolis: compiled from the Official Returns of the Registrar-General.* BY WILLIAM ACTON, Esq.

THE author states that his object in the present paper is not merely to give the dry statistical details of the official reports, but to call the attention of the Society to the practical facts founded on the calculations contained in the large published folios, and which hitherto have not met with any notice from the profession. He states, that in the army returns, the report extends over a period of seven and a quarter years, and includes the various venereal affections (8072 in number) of the soldiers quartered in the United Kingdom, amounting to 44,611. He furnishes a table, by which it is seen that nearly one man in every five—or, more correctly, 181 per 1000—is attacked with venereal disease. According to the army classification, one man out of thirty-one is attacked with true syphilis; one in twenty, with *ulcus penis non syphiliticum*; and one in eighteen, with gonorrhœa.

The author further alludes to this classification of sores, and regards it as incompatible with the present notions on venereal diseases. He calls the attention of the medical authorities of the army to the large proportion of cases of secondary symptoms, which, according to their classification, amounts to one in every four men attacked with primary symptoms.

Mr. Acton next notices the large proportion of cases of swelled testicle occurring in the ranks, as the returns show that one in every three men attacked with gonorrhœa sufferrs from swelled testicle, which he attributes to the soldiers probably taking violent remedies unknown to their surgeons, and to the numerous cases occurring amongst cavalry soldiers; but he directs attention to the fact, whatever may be the cause, as more frequent than in civil life.

The author alludes to the frequency of venereal diseases in the American and Belgian army, and speaks of the probable causes of veneral diseases being most rife among our troops.

Passing to the navy returns, the author gives tables of venereal diseases in the home service, showing that one out of every seven sailors suffers from venereal diseases. The author regrets that in these returns the cases of secondary symptoms are not separated from the primary ones. He notices the large proportion of swelled testicles in the returns of the navy, equalling that in the army.

In order to compare the proportions in the merchant service, the author furnishes a table, drawn up by Mr. Busk, surgeon of the "Dreadnought" hospital ship. It appears that the large proportion of one out of every three patients admitted labours under venereal diseases. He also gives a table to show that among the surgical out-patients at St. Bartholomew's Hospital, nearly one-half are affected with venereal disease.

The author calls the attention of the profession to the impossibility of checking venereal diseases, except by police or government regulations, and enters into a calculation founded on the returns of the period of a soldier's stay in the hospital, of the time he is incapacitated from duty, and of the expense of his maintenance whilst he is laid up.

The author, turning to the registered cases of deaths from syphilis, supplies a tabular statement furnished by Major Graham, showing that during the last half year the mortality from syphilis has been two a week, and that one in 18,067 falls a victim to the disease.

He divides the deaths into males and

females, showing that there were twenty-six deaths among the latter, and twenty-seven among the former, and contends that prostitutes do not (as some have supposed) perish in large numbers from syphilis. He calls attention to the novel fact, that the greatest mortality takes place among children under one year of age; but that no period of life, from the age of seventeen to sixty-four, is exempt from the fatal cases of the disease. Out of thirty fatal cases of infantile syphilis, we find the child born with traces of it in thirteen cases, and the complaint proved fatal from one hour to thirty-nine weeks; in twelve cases the disease commenced between the first and twenty-sixth week after birth; and in seven cases the period of the first appearance is not mentioned. The author enters into some details as to how syphilis proves fatal in the infant, and then discusses how it kills adults; he shows that death from disease of the bones is now seldom met with, and he points to the few cases of death from phagedena, in late years, as compared with former years. He alludes to the opinion entertained by some persons, that women who have suffered from syphilis are more liable to other complaints, and shows that such a notion is unfounded, and concludes by expressing a hope that he has filled up one of those blanks on the subject of venereal diseases, which the premature death of Parent Duchatelet prevented that able philanthropist from supplying.

Mr. Solly said that it had been frequently asserted that syphilis was the cause of death to the fœtus in utero. Many accoucheurs of eminence were of this opinion. Had Mr. Acton any statistics on the point?

Mr. Acton had not alluded to the frequency of abortions mentioned by Mr. Solly, inasmuch as we possess no statistics on the subject, and he (Mr. Acton) had confined himself, in his paper, to those facts which admit of demonstration by figuring; he might, however, mention, that he was very doubtful how far syphilis could produce abortion. He had, in his work "On Venereal Diseases," stated that pregnant women, who labour under constitutional syphilis, seldom miscarry, but bear apparently healthy children, which, as the paper states, become affected some weeks after birth. Accoucheurs formerly, he believed, set down to the score of syphilis much that they now attribute to other causes; and without decrying the influence of syphilis, he thought we should not lose sight of the other numerous causes of abortion.

Dr. Snow said that he had seen several instances in which the fœtus died of the effects of syphilis, either in utero or a few days after birth. One patient, whose husband had suffered from syphilis before marriage, had had five children born about the end of the eighth month. Of these, only the last was living, and it had been treated as soon as it was born with mercurial ointment to the knee, in the way recommended by Sir B. Brodie. Of the others, one or two were still-born, and the rest died three days or a week after birth, the last which died having syphilitic eczema. Another patient had three very healthy children, which were still living; and after the birth of these, the husband contracted syphilis, and he and his wife had the disease in the secondary form; and the treatment for this was scarcely concluded, when the wife became pregnant again. The child was still-born at about the full period, and there was effusion of blood into the serous cavities, particularly that of the peritonæum. He (Dr. Snow) considered, that however valuable the registration might be for many purposes, it was no criterion of the number of deaths from syphilis. He believed the number of infants who perished of this disease was much greater than that stated in the table. Those he had seen to die of syphilis were not so registered.

Mr. Coulson agreed with the author in attributing the great mortality of infants from syphilis to the operation of the mercury, given for its cure, on the bowels. He adopted a practice, in this affection, for which he was indebted to Sir B. Brodie, by which the serious evil he had just alluded to was obviated. This practice consisted in spreading mercurial ointment on a piece of flannel or lint, and surrounding the knee or some other joint with it, for a period of twenty-four or forty-eight hours, at the expiration of which time the symptoms usually disappeared. If the application produced too much irritation, it was desirable to remove it before the expiration of either of these periods, and again apply it if necessary. He gave no mercurial internally.

Mr. Davis spoke of the difficulty of arriving at a correct conclusion as to the real number of cases of syphilis in the army, in consequence, among other causes, of men being frequently sent on duty before they were quite well, and the same case being afterwards, on re-admission, entered as a fresh case.

Dr. Maclaughlin believed that in reality there was not more syphilis in the army, in proportion, than among any other number of individuals of the same station in life. In proof of the difficulty of arriving at just conclusions respecting the amount of syphilis in the army, he stated that men had been admitted and re-admitted into the hospital, labouring under this complaint, as many as thirty times, as if each time the case were a distinct infection, when in reality it was not so. With respect to the fre-

quency of hernia humoralis, as mentioned by the author, the same fallacy existed. It bore nothing like the proportion of one case to every four of gonorrhœa. A man affected with hernia humoralis went out of the hospital with the disease, and perhaps a month afterwards came in again with the same complaint, and thus kept going in and out of the sick ward several times in the course of six months, with, in reality, a return of the original affection, and not a fresh attack of it. These sources of fallacy were fatal to the correctness of the army statistics, as given in the paper. He eulogized the plan of treating syphilis and its complications by army surgeons.

Mr. ACTON, in reply to the last speaker, observed that he had no intention of impeaching the treatment of the army medical authorities; he drew his deductions from the published records of our navy and army, and had suggested the same probable explanation of the facts as stated by them; but as facts, they were no less curious and deserving the attention of the profession, particularly at a period when so much public attention was directed to the condition of the soldier.

Mr. LLOYD, in reference to the frequency of death as the direct result of syphilis, remarked, that at St. Bartholomew's he had constantly from two to three hundred cases of this disease under his care, and yet, during a long professional career, he had only seen four cases of death during the active stage of syphilis, and even these deaths could not be fairly attributed to the syphilis alone. One of these cases had been under the care of the late Mr. Abernethy; it was a case of severe rupia, succeeding to phagedena, in which mercurial fumigation had been applied. The moment salivation took place, the patient fell down in an epileptic fit, which recurred at intervals of a few hours until the patient died. There was effusion between the arachnoid membranes. In two other cases the patients suffered from an œdematous state of the sub-cellular tissue while labouring under syphilis, and it might be fairly questionable whether the latter disease alone destroyed life. The last case was one of phagedena, in which mercury had been improperly applied, with the effect of producing great constitutional debility, and a fatal result. He had never seen a case of death from syphilis in a child in his own practice, and he did not believe that the internal administration of mercury, when judiciously resorted to, was bad. Cases of abortion, and of death of the fœtus shortly after birth, were more common in cases in which the disease affected the father than when the mother was the subject of the complaint. Why it was so it was difficult to explain.

Mr. WADE had been surprised to hear Mr. Acton say that syphilis was not a cause of abortion, for he, Mr. Wade, was fully convinced that it was. Several cases had come under his care in which women aborted two or three times successively in consequence of syphilis, but who afterwards bore healthy children in consequence of being placed under an extended course of mercury. Of course, these remarks applied to the secondary form of the affection. The father having the disease was more likely to produce abortion in the mother than if she herself was affected.

Mr. CÆSAR HAWKINS thought the paper would have been more complete had the statistics of the various Lock hospitals been added to the other records. He suggested, in respect to the influence of syphilis in producing abortion, that one source of fallacy might exist in the influence of mercury, when this was given, particularly in former times, on its production.

Mr. ACTON observed, that as to the utility of adding returns from the Lock Hospital, he must say such information would have been very desirable; but that institution enjoyed very little public or private support; there was great disinclination in the public to supply it with funds, patients in its wards were few, and Mr. Acton was unaware of any statistics it possessed, and doubted much if they were open to the public; the few reports which it had published were very meagre, and its present position, so far from the centre of town, rendered it little accessible to the poor, who formerly confided in it. Of late years its position had been taken by the other metropolitan hospitals, for, as this paper shows, the poor flock to St. Bartholomew's, where we find half the surgical out-patients suffering from venereal diseases; and at the so-called free hospitals this proportion is much larger. He believed he had neglected no source whence he could have obtained his statistics, which he believed would be valuable in future years as means of comparison.

Mr. LLOYD had not found hernia humoralis a disease so liable to relapse in civil as it appeared to be in military hospitals. After active depletory treatment, which he always employed, he did not see three cases of relapse in twelve months.

*Cases of Varicocele treated by Pressure, with Observations.* By T. B. CURLING, Lecturer on Surgery, &c., London Hospital.

THE author states that, three years ago, a case of varicocele, cured by the application of pressure to the spermatic veins, came under his notice, and being struck with the peculiar adaptation of this plan of treatment to counteract the injurious effects of the

dilated veins, he determined to give it a trial. He has since treated many cases of varicocele by pressure, and as a sufficient period has now elapsed to e able him to form a just opinion of the value of this plan of treatment, and of its advantages over other methods, he ventures to submit the results of his experience in the management of this complaint to the fellows of this Society.

The author details three cases of variocele cured by pressure: the first, at the end of nineteen months; the second, at the end of seven months; and the third, a case of double varicocele, in ten months. He also alludes to four other cases, in which this plan of treatment was successful in curing the disease. He remarks, that in these cases the dilatation of the veins had taken place at a comparatively early period of life, was not excessive nor of long duration, but was productive of inconvenience and uneasiness, which could be only partially remedied by the suspender; they were precisely the cases in which it was presumed that pressure, by relieving the veins of the superincumbent weight of the blood, would enable their coats to recover their proper size and tone.

Two other cases are related in which great and immediate relief of the distressing symptoms occasionally attendant on varicocele was afforded by pressure, but the patients had not remained under treatment a sufficient period to enable him to judge of the ultimate results.

The author remarks, that little attention is paid to constitutional treatment in varicocele, which is commonly regarded as exclusively a local disease. In the class of cases in which the benefit derived from pressure is most apparent, the patients are persons between eighteen and thirty years of age, of weak frame and constitution, and subject to dyspepsia, and whose venous system and circulation are feeble. In these cases the operation of local remedies may be aided materially by general treatment.

After noticing the liability of this disease to relapse, and for this reason recommending the continuance of the truss for some time after all symptoms of the affection are removed, the author adverts to another class of cases, in which the application of pressure is capable of giving considerable relief, though not of curing the disease. They are cases met with at a somewhat advanced period of life, in which the plexus of dilated veins is of large size and of long standing, but productive of only slight inconvenience, which may b remedied by the suspender. The application of pressure, however, not only removes the slight uneasiness, but also counteracts the tendency to further dilatation, and prevents the wasting of the testicle, though the enlargement is too great to admit of the vessels being reduced to their former size.

From these observations, the author considers the treatment by pressure to be applicable, either for the cure or relief of the majority of cases of varicocele occurring in practice, and its simplicity, freedom from all risk, and efficacy, in his opinion render it superior to every other method of treatment that has hitherto been tried. In all the cases which he has treated, he has employed the mock-main-lever truss, which seems better adapted to make the necessary pressure at the abdominal ring than any other instrument that he knows of. In general, the truss need be worn only during the day. When the scrotum is pendulous, or the plexus of dilated veins considerable, he advises the addition of the silk-net suspender.

Mr. Lloyd was always able to relieve varicocele without employing a truss. Dilatation of the veins alone in varicocele did not cause pain or inconvenience, any more than a simple varicose condition of the veins of the leg produced suffering. It was when inflammation came on that the pain and inconvenience were experienced. Allay that inflammation, and you relieved your patient.

Mr. Curling, in answer to a question, said that he had seen one case in which the use of the truss had been discontinued for four months, and there had been no return of the complaint. In answer to Mr. Lloyd, he observed, that the treatment recommended in the paper had reference only to those cases in which the patient really suffered from the disease. These sufferings might exist independent of inflammation, as the sense of weight, &c. experienced by patients in this disease, and the means taken to prevent it, would testify.

Mr. Solly referred to the case of a hard-working smith, who, after wearing a truss for six months, had been cured.

Mr. Coulson, though he had not employed a truss in his own practice, had known instances in which varicocele had been relieved by such application. When varicocele became troublesome, he was in the habit of drawing the scrotum through Wormald's "scrotal ring," by which means the testicle was drawn up close to the abdominal ring, and this, with a suspender, succeeded in affording relief. The apparatus was removed at night.

Mr. Partridge had seen a gentleman who suffered from varicocele complicated with a hernia, which it was difficult to return, and in whom the scrotum was so painful that he could not bear even the pressure of a suspender. The hernia was so difficult to return, that he was ordered to lay in the recumbent position for six months. The hernia was then reduced; he wore a

truss, and the varicocele had since much diminished in size.

Mr. Streeter alluded to the remark of Sir C. Bell to the effect, that he had known varicocele much relieved, when, having been mistaken for hernia, a truss had been applied to it.

## Selections from Journals.

### URINARY CALCULUS IN THE PIG.

Heller mentions having examined a urinary calculus taken from a pig. The stone was about the size of a musket-ball, very hard and mulberry-like; it was grey externally, but internally was white and amorphous. It was composed almost entirely of carbonate of lime, with a small quantity of phosphate of lime. There was no trace of uric acid or of urates in it.—*Archiv. für Chemie und Microscopie*, Heft. 1, 1846.

### PARALYSIS OF THE HANDS FROM THE USE OF CRUTCHES.

A woman has been admitted into the Hôtel Dieu, under the care of M. Guérard, with paralysis of both fore-arms and of the fingers of both hands, resulting apparently from pressure on the axillary nerves by the use of crutches for fourteen days. The paralysis began by a feeling of numbness. There was complete loss of sensation and of the power of motion in the affected parts, on admission; but by rest and the employment of blisters and strychnia for a few days, the fingers had regained a certain amount of their power. The case is still under treatment.—*Gaz. des Hôpitaux*, 18 Avril, 1846.

### NECESSITY FOR ACCURACY IN DIAGNOSIS.

A case is mentioned by M. Rostan, which affords a good example of how much the right treatment of a disease depends on a methodically conducted examination into all the particulars likely to bear on the affection. A female became the subject of an obstinate constipation. The first medical man who saw her suspected the existence of some inflammatory affection, and prescribed the application of leeches. No beneficial effects resulting from this plan of treatment, another physician was consulted, who ordered purgatives: these, however, produced only temporary relief, and a third medical man was accordingly summoned. He went more methodically to work in his endeavour to find out the real cause of the complaint; he examined the abdomen, and found an ovarian tumor, which was compressing the rectum, and so mechanically caused constipation. The position of the patient in bed was altered so as to relieve the rectum from pressure, and the bowels at once acted. —*Gazette des Hôpitaux*, Avril 18, 1846.

### MODE OF ARRESTING HÆMORRHAGE FROM LEECH-BITES.

Dr. Houston recommends the following plan for preventing excessive bleeding from leech-bites, which he has found invariably successful. Take a small pinch from the felt of a beaver hat, pile it on the bite; or if there be several points, pile one respectively on each, and spread over the whole a piece of thin muslin, drawing it tightly, so that any blood which flows must pass directly through both; then with a fine sponge drying up the blood as it oozes out, and in a very short time both felt and muslin will have become dried by the cogulation of the blood in the thin fine meshes, and the hæmorrhage arrested. The muslin may then be all cut away, except the adhering points, which, in the course of a couple of days, will of themselves drop off, leaving the parts healed, and free from any such disfiguring marks as those which necessarily follow cautery, caustics, or needles."—*Dublin Hospital Gazette*, March 1845.

## Correspondence.

### THE OPEN SURGERY QUESTION.

Mr. Preston has objected to the criticism of our reviewer on a pamphlet lately published by him, entitled, "The Open Surgery Question." It is not our practice to insert replies to reviews or notices of books. We should be involving ourselves and our correspondents in endless discussions. Nevertheless, we are quite willing on this occasion to give Mr. Preston the benefit of the insertion of the following extracts from his letter, which he offers as a more complete explanation of his views :—

Sir,—Far be it from me to advocate the adoption of open surgeries to be employed for the "sale of soap, perfumery, cattle medicines, and tooth-brushes;" I have expressly condemned such practices; and I should be glad to see the mere retailing of medicines abolished, were it practicable, without injury to the public; but I fear it is not; and that it must still be pursued by those who do feel that the lives and health of the humbler classes of society are of far more importance than any conventionalities which the profession may attempt to establish.

My position is, that it is a moral duty of the legitimate members of the profession to be as accessible as possible to all who stand in need of their assistance; and this I maintain can be most completely effected by the adoption of the open surgery.

That the surgeon who thus devotes himself to the cure and alleviation of disease "must be paid in some way or other," the poor man is rarely slow to admit; and when he has the choice of a dispensary and of an open surgery, he reasons that the former will entail the greater expense upon him, because he knows that he runs the risk of losing half a day's work while he is waiting his turn for advice and medicine. Where circumstances drive the poor man to the dispensary, I feel assured that his honest pride is wounded; and where expressed least, 'tis felt most. Those who, while they can afford to pay a medical practitioner, crowd to receive advice and medicine gratis, are a class so vulgar and contemptible, that I question whether they have any pride open to a wound, and I assign them a position in the social scale far beneath that of the working man.

This argument, however, seems to me foreign to the question; the hospital, the dispensary, and the open surgery, are all abused, and will be so for many a day; but this must not forbid their legitimate use. "Fiat justitia, ruat cælum."

Your obedient servant,

W. J. Preston.

20, Upper Berkeley Street,
June 18, 1846.

*** Our correspondent advocates the practice of retailing drugs by medical practitioners. In this we cannot agree with him. Physicians and surgeons in France do not act as chemists and druggists, and why may there not be such a separation on this side of the channel? We commend his views so far as they regard the uniform employment of qualified assistants, and the expulsion of those members of the College of Physicians and Surgeons, who debase themselves, and degrade their profession, by a trade-alliance with the dispensers of drugs, and who secretly profit by a per centage on the medicine which they prescribe.

### SMALL CALCULI OF OXALATE OF LIME.

Sir, — I perceive, in a late number, that Dr. Venables gives the case of an oxalate of lime calculus, weighing upwards of four grains, extracted by incision from the urethra. It is stated that the surface was tuberculated and rough, like the ordinary mulberry calculus. If I recollect right, Dr. V., in his lectures, published some years since in this journal, asserts that small concretions of oxalate of lime are always smooth externally, and about the size of hempseed, from which they have been named the hempseed calculi. I further remember, that in the delivery of his lectures on Urinary Affections, Dr. Venables shewed the class several six and eight ounce bottles obtained from Mr. Langstaff, filled with these hempseed calculi. They were of various sizes, but not one presented the mulberry surface, as described in the doctor's last case. Will the doctor, or some of your readers, practically conversant with the subject, inform me if the mulberry conformation of the external surface of so small a calculus be nothing uncommon, or as great an "anomaly" as the intermixture of silex? I make these inquiries because it is generally laid down that small calculi of oxalate of lime are *smooth*; consequently, if "tuberculated," they might be referred by persons not over well versed in chemical analyses, to the *uric* acid variety, which is stated to be sometimes "finely tuberculated."

I am, sir, your obedient servant,

Inquisitor.

## Medical Intelligence.

### THE CHOLERA.

According to the latest Indian intelligence the cholera was ravaging many districts and causing numerous deaths. The latest intelligence from Aden, (May 28), confirms the accounts which we have already given of the cholera having appeared there. The deaths were five daily. The epidemic was travelling westward.

### SEPARATION OF GRADES IN LAW AND MEDICINE.

It is curious to contrast the jealousy with which lawyers treat any apparent intrusion of one grade of their profession into the department assigned by custom to another, with the indifference manifested by medical men regarding this fusion of ranks in the medical profession; chemists, druggists, apothecaries, surgeons, and physicians, appear to be all amalgamating into one mass. It is now scarcely possible to define the province of each; in practice one appears to be continually treading on the heels of the other.

Solicitors have been lately endeavouring to take the place of barristers at Quarter Sessions, and have strongly insisted upon their right to address the Bench for their clients without the intervention of a barrister. Very plausible arguments were adduced in favour of the adoption of this practice; as, for instance, the great diminution of expense to the client, and the fact that the solicitor would have the advantage of the barrister in being more perfectly master of the whole of his client's case from long study and preparation. The Judges of the Queen's Bench, however, on being appealed to, have decided in favour of *exclusive* audience to the Bar. Lord Denman observed that the privilege of the bar had been sustained in

practice, and approved upon the ground that it ensured competent legal assistance, and that it was expedient to maintain the distinction between the two branches of the legal profession.

Our Colleges are at present powerless to punish or prevent any infringement of the privileges of their members; nor is it likely that they will ever be able to exercise a power of this kind except under a stringent measure of medical reform.

### THE HYDROPATHIC CASE.

The trial of Dr. Ellis on a charge of manslaughter by the cold water treatment, took place at the Central Criminal Court on Saturday last, and ended in an accquittal.

The evidence given on the occasion was identical with that given at the inquest, and elsewhere reported.*

We subjoin an abstract of the defence made by Mr. Cockburn.†

Mr. Cockburn commenced by observing, that the present charge differed from every other in this respect; that whereas in every other case the law required a guilty intention to be proved or inferred, yet, in this instance, if a person acted with the utmost kindness, and showed the strongest desire to benefit his patient, if death, notwithstanding his exertions, unhappily ensued, he still might be amenable to the charge of manslaughter. The learned counsel then proceeded to express an opinion that the jury ought to dismiss entirely from their minds all consideration of the merits of the hydropathic system; he considered it had nothing to do with the case. It might be a very good system, and possess all the advantages claimed for it by its supporters, or it might be, as was represented by others, a delusion and imposture; but the only question for the jury was, whether, under all the circumstances of this case, they could come to a conclusion that Dr. Ellis, in his treatment of the deceased, had acted with such criminal rashness and want of caution as would justify them in finding him guilty of the crime of manslaugter. He then proceeded to comment upon the facts, and said it appeared perfectly clear that the deceased had gone to the doctor's establishment of his own accord, and that the doctor was ignorant of his suffering from anything but rheumatism. The treatment at first was most successful; for, inasmuch as it appeared from the deceased's own admission that when he first went there he was prostrate with pain, helpless as a child, and unable to walk, it was shown that in a day or two he was entirely free from pain, and able to walk in the garden with a little assistance. Was not this calculated to induce Dr. Ellis to persevere in his treatment? and if, unhappily, by so doing, he had aggravated another mortal disorder, of the existence of which he had no idea, surely it would be too much to say that he had thereby subjected himself to the charge of manslaughter. The learned counsel then proceeded to comment at some length upon the medical testimony, and observed, that he thought it would have been but fair to Dr. Ellis if he had been allowed an opportunity of being personally present at the *post-mortem* examination, or of having some one there on his behalf. He likewise called the attention of the jury to the fact, that it was admitted, although some diseases of the brain might have occasioned the congested state of the lungs, yet that organ was not examined; and, for all the jury knew to the contrary, it might, if the examination had taken place, have entirely accounted for the appearances which presented themselves in the body of the deceased. The learned counsel concluded a very eloquent and able address by calling upon the jury to acquit the prisoner, and not to destroy for ever his prospects in life by finding him guilty of so serious a charge upon such slight testimony.

Lord Chief Justice Tindal then summed up, and the jury, without any deliberation, returned a verdict of *Not Guilty*.

The defendant was immediately discharged from custody.

*** According to Mr. Cockburn it was at most but a case of killing with kindness,—a condition represented phrenologically by an unusual development of the organs of destructiveness and benevolence. Contrary to the statement of the learned counsel, however, we think that the merits of the hydropathic treatment had a great deal to do with the case. A man may intend to cure a person, but adopt means for that purpose, which, according to all sound experience, must necessarily endanger or destroy life. According to Mr. Cockburn, if the system of treatment is carried out with the utmost kindness, however pernicious it may be, the jury have no business to inquire into it, or its probable effects! Great dexterity was shown in fixing upon a part of the body which was not inspected, as a probable seat of disease. Had the head been inspected, there would have been still the spinal marrow or some other unexplored region for the learned counsel to fix upon as the *fons et origo mali*.

The report of the trial impresses us with the conviction that the prosecution was not conducted with half the spirit of the defence. Such prosecutions in our opinion never can and never will be properly conducted until an energetic public prosecutor has been appointed. The French are far before us in this respect.

* Page 1055.
† Times, June 22.

## ROYAL COLLEGE OF SURGEONS.

*Gentlemen admitted Members.*

FRIDAY, *June* 19.—J. Rogers.—W. P. Charsley.—B. Butterworth.—W. C. Cooksey.—B. P. Matthews.—E. Simpson.—A. H. Parry.—R. W. Ledward.—G. C. Sharman.—A. T. Mott.—J. M. Bowie.—J. B. S. Brown.—W. Hurman.

## APOTHECARIES' HALL.

*Gentlemen who have obtained Certificates.*

THURSDAY, *June* 18.—Wm. Henry Freeman, Spring Gardens.—John Palmer, Loughborough.—Rowland Lloyd, Dolgelly, N. Wales.

## BIRTHS & DEATHS IN THE METROPOLIS

*During the week ending Saturday, June* 13.

| Births. | | Deaths. | | *Aver. of* 5 *yrs.* | |
|---|---|---|---|---|---|
| Males.... | 675 | Males.... | 417 | Males.... | 493 |
| Females . | 656 | Females . | 404 | Females . | 475 |
| | 1331 | | 821 | | 968 |

### DEATHS IN DIFFERENT DISTRICTS.

(34 *in number;—Registrars' Districts,* 129. *Population, in* 1841, 1,915,104.)

| | | |
|---|---|---|
| WEST—Kensington; Chelsea; St. George, Hanover Square; Westminster; St. Martin in the Fields; St. James .. | (Pop. 301,326) | 153 |
| NORTH—St. Marylebone; St. Pancras; Islington; Hackney ..... | (Pop. 366,303) | 158 |
| CENTRAL—St. Giles and St. George; Strand; Holborn; Clerkenwell; St. Luke; East London; West London; the City of London ... ..... | (Pop. 374,759) | 147 |
| EAST—Shoreditch; Bethnal Green; Whitechapel; St. George in the East; Stepney; Poplar ..... | Pop. 393,247) | 168 |
| SOUTH—St. Saviour; St. Olave; Bermondsey; St. George, Southwark; Newington; Lambeth; Wandsworth and Clapham; Camberwell; Rotherhithe; Greenwich ..... | (Pop. 479,469) | 195 |
| Total ..... | | 821 |

### CAUSES OF DEATH.

Col. A. Weekly Averages of 5 Springs; Col. B. of 5 Years.

| | | A. | B. |
|---|---|---|---|
| ALL CAUSES ..... | 821 | 892 | 968 |
| SPECIFIED CAUSES ..... | 820 | 886 | 961 |
| 1. *Zymotic* (or Epidemic, Endemic, Contagious) *Diseases* .. | 128 | 162 | 188 |
| *Sporadic Diseases*, viz.— | | | |
| 2. Dropsy, Cancer, &c. of uncertain seat ..... | 86 | 98 | 104 |
| 3. Brain, Spinal Marrow, Nerves, and Senses ..... | 152 | 155 | 157 |
| 4. Lungs, and other Organs of Respiration ..... | 237 | 271 | 294 |
| 5. Heart and Blood-vessels ..... | 27 | 26 | 27 |
| 6. Stomach, Liver, and other Organs of Digestion ..... | 75 | 65 | 72 |
| 7. Diseases of the Kidneys, &c... | 11 | 7 | 7 |
| 8. Childbirth, Diseases of the Uterus, &c. ..... | 14 | 9 | 10 |
| 9. Rheumatism, Diseases of the Bones, Joints, &c..... | 8 | 6 | 6 |
| 10. Skin, Cellular Tissue, &c. .... | 2 | 1 | 2 |
| 11. Old Age..... | 39 | 60 | 67 |
| 12. Violence, Privation, Cold, and Intemperance ..... | 41 | 25 | 26 |

The following is a selection of the number of Deaths from the most important special causes:

| | | | |
|---|---|---|---|
| Small-pox ..... | 9 | Convulsions .... | 38 |
| Measles ..... | 7 | | |
| Scarlatina ..... | 15 | Bronchitis ..... | 31 |
| Hooping-cough.. | 30 | Pneumonia..... | 50 |
| Typhus ..... | 38 | Phthisis .....133 | |
| | | Dis. of Lungs, &c. | 11 |
| Dropsy..... | 14 | Teething ..... | 13 |
| Sudden deaths .. | 6 | Dis. Stomach, &c. | 2 |
| | | Dis. of Liver, &c. | 6 |
| Hydrocephalus .. | 37 | | |
| Apoplexy..... | 18 | Childbirth ..... | 9 |
| Paralysis..... | 22 | Dis. of Uterus, &c. | 3 |

REMARKS.—The total number of deaths was 71 below the vernal and 147 below the annual average. The deaths from Zymotic diseases, with the exception of typhus fever, were also below the averages. Deaths from this fever have slightly increased during the last week. In the West districts, the mortality was above the average. In all the others, it was below.

## METEOROLOGICAL SUMMARY.

| | |
|---|---|
| Mean Height of Barometer ..... | 29·88 |
| „ „ Thermometer[a]..... | 66·4 |
| Self-registering do.[b] ..... | max. 114·5 min. 42·8 |
| „ in the Thames water. | — 73·5 — 68·5 |

[a] From 12 observations daily. [b] Sun.

RAIN, in inches, 0·04: sum of the daily observations taken at 9 o'clock.

*Meteorological.*—The mean temperature of the week was nearly 8° above that of the mean temperature of the month (58·7°). The extreme hebdomadal range in the self-registering thermometer was 71·7°.

## NOTICES TO CORRESPONDENTS.

Will an Antimesmerist favour us with his name and address in confidence?

Mr. D. Price's case will appear in our next No.

The Circular of the Pathological Society has been received, but want of space has prevented us from giving any notice of the objects of the Society this week.

Dr. C. H. Jones's paper shall have early insertion.

We are obliged to Mr. S. Hare for his offer. We shall have great pleasure in inserting his paper.

*Received.*—Dr. D. Maclagan.

# INDEX TO VOL. II. OF THE NEW SERIES.


Abdominal disease, Mr. Squire's case of, 167.

Abortion produced by the injection of an irritating substance into the vagina—death of the female, **171**

Abortion, trial for the attempt to procure—is white hellebore a poison? 830; trial for attempting to procure, by mechanical means—death from other causes—evidence from the presence of corpora lutea—is it necessary that there should be proof of pregnancy? 831.

Abscess in inguinal canal, Mr. C. Hawkins's clinical remarks on, 1115; abscess of nates, 1116.

Abscess of the brain, Dr. Merriman's case of, 609.

Abscess, &c. Mr. W. Brown's cases of, 905.

Absence of the spleen, 975.

Academy of Medicine, Paris:—On the use of iodine injections in arresting dropsical effusion into the peritoneum, 249.

Academy of Sciences, Paris, papers presented to the:—Letter from Professor Faraday on magnetism and light, 248; M. Lallemand on thermal sulphureous waters in the treatment of phthisis, 249; M. Leroy's new method of distinguishing arsenical from antimonial deposits in the use of Marsh's test, ib.; M. Mialhe on the digestion and assimilation of amylaceous and saccharine matters, 788; M. Bernard on the process of digestion and nutrition in herbivorous and carnivorous animals, 870.

Acephalous monster, account of, being one of four children born at a single birth—discussion upon the influence of maternal impressions on the fœtus, 706.

Acetate of lead, case of poisoning by, 1014.

Acid, removal of carbonic, from wells and cellars, 798.

Acid, uric, in urine, mode of determining the amount of, 834.

Acton's, Mr. account of a case of partial double monstrosity, 521.

Acton's, Mr observations on venereal diseases in the United Kingdom, from statistical reports in the army, navy, and merchant service, with remarks on the mortality from syphilis in the metropolis, compiled from the official returns of the Registrar-General, 1121.

Adams, Mr. on floodings before and after delivery, 139, 437, 796.

Adipose tumor, Sir B. Brodie's remarks on a peculiar form of, 1028; diagnosis of, 1060.

Adulteration of iodine, 945, 1104.

Aerolites, composition of, 262.

African fever, Government investigation into the nature of, 664; editorial remarks on the correspondence on the, 1083.

Agricultural chemistry, 261.

Albuminuria, the causes of, illustrated by experiment, 556; Mr. Fisher's case of, 791.

Anderson, Dr. testimonial to, 127.

Aldis's, Dr. case of aneurism of the thoracic aorta, with symptoms of enlarged heart, 479.

Alexander, Mr. note from, respecting a case of hydatid suppurative cyst of the liver, 619.

Algeria, French hospitals in, 706.

Alison, Dr. Scott, on arthritis occurring in the course of paralysis, 434.

Allen, Mr. on diarrhœa in children, and its connection with hydrocephalus, 242.

Allnatt, Dr. on ox-gall in constipation during pregnancy, 258.

Allnatt's, Dr. remedy for deafness, 925.

Ammoniacal ointment a substitute for blistering plaster, 253.

Ammonio-magnesian phosphate, Dr. G. Bird's case of excessive secretion of the, by the kidneys, with long-continued vomiting, 607.

Amorphous quinine as it exists in the substance known in commerce as quinoidine, 910; remarks on, by a Correspondent, 1117.

Amputation of the fœtal limbs, case o spontaneous, 868.

Analysis of the liquid of spina bifida, by Dr. Percy, 851.

Analysis of the fluid of hydrocele, by Heller, 1059.

Anatomy before the Act, 546.

Anatomical models, 797.

Ancient bills of mortality, 804.

Aneurisms and ligatures, Mr. T. W. King's observations on, 200, 595, 637, 855, 901.

Aneurism, Mr. Hewett's case of, 388; popliteal, Mr. Dartnell's case of, treated by compression, 464; popliteal, Mr. Storks' case of, successfully treated by pressure, 570; of the thoracic aorta, Dr. Aldis's case of, 479, dissecting, of the aorta, Dr. Theophilus Thompson's account of a case of, 584; of the heart, Dr. Peacock's case of lateral or partial, with

remarks, 606; femoral, spontaneous cure of, mortification of the toes, 708.
Animal heat, ancient application of, 75, 513.
Antidote to the salts of copper and bichloride of mercury, 795.
Anthropological museum, 1105.
Apoplexy in the fœtus and new-born child, 321.
Apoplectic and paralytic diseases, Mr. Copeman's cases and observations on the treatment of, 457, 587, 681, 812.
Apothecaries' Hall, lists of gentlemen who have obtained certificates. 88, 132, 176, 220, 264, 308, 352, 440, 485, 533, 578, 622, 666, 710, 755, 800, 844, 888, 931, 976, 1020, 1064, 1128.
Apothecaries' Society and National Association, editorial observations on the reports of the, 777.
Appointments, medical, 21, 163, 259, 753, 1062.
Arsenical from antimonial deposits, new method of distinguishing, 249.
Arsenic, detection of, in the tissues of the body, and its separation from antimony, 300; in soot, transmission of, from the mother to the fœtus, ib.; well-water poisoned by, 843; trial for poisoning by, detection of the poison in the body, the alleged presence of normal arsenic in the bones and in the earth of cemeteries, failure of proof of administration, 919; magnesia an antidote to, 974.
Artificial ultramarine, its composition and chemical properties, 709.
Artificial biliary fistulæ, 1061.
Ashton-under-Line, fever in, 973.
Asia minor, manna from, 885.
Asiatic cholera, editorial remarks on the reports concerning the, 782.
Astragalus, Mr. Solly's clinical lecture on a case of compound dislocation of the, 265.
Attree, Mr. W. notice of the death of, 800.
Austrian rhubarb, 975.
Authors, caution to medical, 35.

Bacon, Lord, death of, 161.
Baines, Mr. on the effects of ranunculus bulbosus, 1060.
Baly, Dr. on the mortality in prisons, and the diseases most frequently fatal to prisoners, reviewed, 345.
Barber-Surgeons Company, notice in the minute book of the, 420.
Barbier, M. le Baron, notice of the death of, 975.
Barlow, Dr. on the depuration of the blood, 156; case of jaundice, reported by Dr. Lloyd, 126.
Bartlett, Mr. on the treatment of syphilis, 330.
Baths and washhouses for the labouring classes, 1063; petition of the physicians and surgeons of Southampton in favour of, 1105.
Becquerel and Rodier's, MM. researches on the composition of healthy and diseased blood, reviewed, 163.
Bed-sores, means of preventing, 992.
Behr's, Dr. Alfred von, pocket encyclopædia of the medical sciences, reviewed, 470.
Belfast District Asylum for the Insane Poor, fifth annual report of the, reviewed, 866.
Bell's, Mr. cases of pelvic inflammation ending in abscess, 59, 102.
Belladonna, cases of poisoning by, 254.
Bencraft's, Mr. report of a case of ovarian dropsy, with clinical remarks by Dr. A. T. Thomson, 482; report of a case of sciatica, successfully treated by the application of blisters and the endermic use of the hydrochlorate of morphia, with clinical remarks by Dr. Taylor, 565.
Bernard, M. on the process of digestion and nutrition in herbivorous and carnivorous animals, 870.
Bethlem Hospital, form of certificate for admission of a patient to, 261; number of patients admitted in the year 1845, 705.
Bichat, portrait of, in the Historical Gallery of Versailles, 486; monument to, 664.
Biliary fistulæ, artificial, 1061.
Billing, Dr. testimonial to, 842.
Bird, Dr. Golding, on the acetate of lead in diarrhœa, 433; case of excessive secretion of the ammonio-magnesian phosphate by the kidneys, with long-continued vomiting, 607.
Birmingham Queen's Hospital reports:—Dislocation of the patella upwards, 85; foreign body in the œsophagus, 86.
Births and Deaths, editorial remarks on the Registrar-General's table of, 121.
Births and deaths in the Metropolis, 44, 132, 176, 220, 264, 308, 352, 396, 441, 485, 533, 578, 622, 666, 710, 754, 800, 844, 888, 930, 976, 1020, 1064, 1128.
Black's, Mr. supplement to the third edition of his treatise on brewing, reviewed, 564.
Bladder, Mr. Hamilton's case of rupture of the, 924.
Blaker, Mr. Harry, notice of the death of, 800.
Blistering plaster, ammoniacal ointment a substitute for, 253.
Blood stains, M. Orfila on the detection of, 18.
Blood, Dr. Barlow on the depuration of the, 156; mortification from sudden loss of, 770; Sir B. Brodie on loss of, in operations, 852; Dr. Camps on certain pathological conditions of the, as it exists in phthisis pulmonalis, 852; Klencke's examination of hydatids found free in the, 836.
Bodies, disinfection of, for anatomical purposes, 262, 663, 797.
Boning, Dr. on vesicular and interlobular emphysema of the lungs, 889.
Bonpland, M. Aimé, notice of the death of, 1107.

Bourne's, Mr. Thomas, case of large strangulated inguinal hernia—operation, recovery, 882.
Bowels, Dr. Campbell's case of obstruction of the, from a large calculus, 333.
Bower's, Mr. Mark Noble, memoranda on difficult subjects in anatomy, surgery, and physiology, reviewed, 739.
Brain, Dr. Vincent's cases of disease of the, following the application of a ligature to the carotid artery, 303; and spinal marrow, Mr. Rainey on the ganglionic character of the arachnoid membrane of the, 389; Dr. Schuh's cases of concussion of the, in which the operation of trephining was performed, 922; ill results of operative measures in cases of injuries to the, 982; Dr. Law on a case of softening of the, 1094.
Brande, Professor, on the electro-chemical protection of metals, 247.
Bread, unfermented, instructions for making, reviewed, 564.
Breast, pendulous tumors of the, 1119.
Breast, scirrhus of the, protraction of life in certain cases of, 987.
Brett's, Dr. chemical table of the urine and urinary deposits, reviewed, 167.
Bright's disease in children, 245; M. Lebert's researches on the state of the kidney in, 882.
British Association, meeting of the, 885.
British hospital at Damascus, 885.
British medical practitioners, honours conferred on, 928.
Brodie's, Sir B. C. lectures on inflammation of the synovial membrane, 221; on scrofulous disease of the knee-joint, 397, 489; primary ulcerations of cartilages of the knee, 492; morbid alteration of structure of synovial membrane, 623; loose cartilages in the knee, 624; fleshy tumors within the knee-joint, 625; malignant disease of the knee, ib.; cartilages and bone of the knee worn away by friction, 626; hysterical affections of the knee, ib.; resignation of, 350; lectures on various subjects in pathology and surgery, reviewed, 516; caution with respect to performing operations after a long-continued course of iodine, 953; on the ill results of operative measures in cases of injuries to the brain, 982; on the treatment of epulis by the application of potassa fusa, 1006; on certain of the causes of non-union in fractures, 1040; on a peculiar form of adipose tumor, 1028; diagnosis of, 1060; on the ill success of removing the ends of the bone in cases of ununited fracture, 1032.
Bromide of potassium, use of the, in secondary syphilis, 972.
Bronchitis, chronic, Mr. Kirk's case of, complicated with dropsy and paralysis, 616.
Brooke, Dr. on the advantages of submucous tenotomy for the relief of strabismus, 387.
Browne, Sir Thomas, on the increase of disease, 203.
Brown, Mr. W. on wounds and injuries of the scalp and face, 204; on the disproportionately severe consequences of slight injuries, &c. about the point of the elbow, 685; surgical cases by: large abscesses over the scapula, and in the subscapular region, 905; case of abscess, sinus, &c. of the back of the hand, illustrating the serious consequences of wounds to the hands in miners, 906.
Brown, Mr Isaac B. on scarlatina, and its successful treatment by the acidum aceticum dilutum of the pharmacopœia, reviewed, 559.
Buck's, Dr. case of a knee-joint anchylosed at a right angle, restored nearly to a straight line by the removal of a wedge-shaped portion of bone, 877.
Buff's, Dr. elements of experimental philosophy in relation to chemistry and pharmacy, reviewed, 1046.
Burgess's, Dr. account of some experiments made with a concentrated alcoholic extract of stavesacre for the cure of itch, 608.
Burial ground, editorial observations on the Spafields', 907.
Burrows, Dr. on disorders of the cerebral circulation, and on the connection between affections of the brain and diseases of the heart, reviewed, 1089.
Bursæ, reproduction of diseased, 829.

Cadaverous spasm and rigidity as signs of death, Mr. A. S. Taylor on, 309.
Calcareous salts in water, on the effects of, 928.
Calculi, symptoms of impacted biliary, 171.
Calculi of oxalate of lime, inquiries respecting, 1126.
Calculus, lachrymal, Mr. Syme's case of, 1036.
Calculus, urinary, in the pig, 1125.
Calomel and common salt, injurious effects of the simultaneous administration of, 218.
Campbell's, Dr. case of obstruction of the bowels from a large calculus, 333.
Camps, Dr. on certain pathological conditions of the blood as it exists in phthisis pulmonalis, 852.
Cannabis sativa, case of sympathetic epilepsy treated with the extract of, 968.
Cancer of the cervix uteri, diagnosis of, 8.
Cancerous disease, Mr. Kirk's case of, with fracture of the femur from muscular action, 72.
Canstatt and Eisenmann's annual report on the progress of the medical sciences in all countries, for the years 1843-44, reviewed, 1005.
Caoutchouc, therapeutical application of, 531.

Carbonic acid, removal of, from wells and cellars. 798.
Caries of the vertebræ, Mr. C. Hawkins's clinical lecture on, 1109.
Carpenter's, Dr. manual of physiology, including physiological anatomy, for the use of the medical student, reviewed, 826.
Carpue, J. C., Esq. notice of the death of, 264.
Cause of the success of quackery, 1107.
Causes of death, editorial suggestions on the mode of returning the, 999.
Caustics, impunity with which they may generally be applied, 762; means of counteracting the action of, 777.
Caution with respect to performing operations after a long-continued course of iodine, 953.
Chambers's, Dr. oration delivered before the Royal Medical and Chirurgical Society of London, at the anniversary meeting, held on March 2, 473.
Chemistry, Royal College of, visit of Prince Albert to, 294.
Chemistry, agricultural, 261; mutations of modern, 440.
Child-birth, deaths from, in the 17th century, 859.
Child murder, editorial observations on the defects in the law regarding, 381; case of alleged, 1007.
Cholera, the malignant, 705; editorial remarks on the reports concerning the Asiatic, 782; at Aden, 1061; in the French squadron, ib.; alleged presence of, in the Caucasus, 1104; latest intelligence from Aden respecting the, 1126.
Circular, an unprofessional, 1019.
City Dispensary, 57th anniversary of the, 620
Clavicle, bent, Mr. Phillips's case of, 435.
Climate of London, 261; of New South Wales, 840.
Clinical Society, Guy's Hospital, meeting of the, 247.
Clutterbuck, Dr. on delirium cum tremore, 82; series of essays on inflammation and its varieties, essay 1, natural history of the disease, &c. reviewed, 691.
Coagulation of the blood as a sign of death, Mr. A. S. Taylor on, 535
Coffee as a remedy for neuralgia, 1016.
Cold, effect of, in inducing dropsy, 1016.
Cold water treatment, death from the; verdict of manslaughter against an hydropathic practitioner; indecent cross-examination of medical witnesses, 1055.
Colles, Mr. on the treatment of a peculiar form of disease of the prostate gland, 879.
Colica pictonum, M. Chevallier on the occupations of those who are most exposed to, 170; Mr. Evans's case of, 997.
College of Pharmacy, editorial observations on the, and on pharmaceutical legislation, 821.
College of Surgeons, editorial remarks on the proposed new charter of the, 381.
Comparative prevalence of phthisis in various localities, 887.
Competency, necessity for a test of, before a person is allowed to practise law or physic, 351.
Composition and properties of artificial ultramarine, 709.
Compound, Mr. Olley's account of a new, of gallic acid, oxide of lead, and potash, 615.
Conception occurring after inversion of the uterus, 1071.
Concussion of the brain, Dr. Schuh's cases of, in which the operation of trephining was performed, 922.
Confessions of an homœopathist, reviewed, 210.
Constipation during pregnancy, Dr. Allnatt on the use of ox-gall in, 258; severe cases of, 392; for thirty days, 570.
Consumption, pulmonary, Dr Guy's conclusions respecting the influence of various employments in inducing, 886.
Contagionists and non-contagionists, memoranda for the, 1116.
Coote's, Mr. Holmes, cases of melanosis, with observations. 1051.
Conviction of M. Raspail for the illegal practice of medicine, 975; prosecution of, 928.
Copeman's, Mr. cases and observations on the treatment of apoplectic and paralytic diseases, 457, 587, 681, 812; on the nature and treatment of floodings after delivery, 893, 992, 1037.
Coroners' inquests, remarks on, 173; the poisonings in Norfolk, editorial remarks on, 1086.
Corpus callosum, Dr. T. O. Ward's case of congenital absence of the, 575.
Correspondence on the African fever, 1083.
Corrigan, Dr. on famine and fever as cause and effect in Ireland, reviewed, 385.
Costo-chondral and costo-vertebral articulations, diseases of the, 58.
Cox's, Mr. W. Sands, memoir on amputation of the thigh at the hip-joint, 123.
Cranium, Mr. Phillips's case of tumor of the, 435.
Cretinism, causes of, 170; in Wurtemberg, 340.
Crichton Royal Institution for Lunatics, sixth annual report of the, reviewed, 866.
Crompton's, Mr. cases of tumors of the face, 677.
Crutches, paralysis of the hands from the use of, 1125.
Crystals, on the formation of, in the morbid products of the human body, 256.
Cumming, Dr. G. Alexander, notice of the death of, 975.
Cure of hydrocele, 1089.
Curling's, Mr. cases of variocele treated b pressure, with observations, 1128.

Cut-throat, Mr. C. Hawkins's remarks on a case of, 935.
Cyanosis, congenital, Dr. Spitta's case of, 305.
Cystiform tumor of the omentum, 172.

Damascus, British hospitals at, 885.
Dartnell's, Mr. case of popliteal aneurism, treatment by compression, 464.
Davies, Dr. John John, notice of the death of, 352.
Davis, Dr. J. H. on the period at which hæmorrhage from sloughing occurs after delivery, 302, 572.
Davis's, Mr. G. M. case of difficult labour from malformation of the os uteri and vagina—treatment by incision, 500.
Davy, Dr. on the use of the microscope as an aid in chemical inquiry, 1011.
Dead body, remarkable case of the development of heat in the, 926.
Deafness, Dr. Allnatt's remedy for, 925.
Death, a new sign of, 783; Mr. A. S. Taylor on the signs of, 133; on the reality of, 1069; from childbirth in the 17th century, 859; from hæmorrhage from extension of a venereal ulcer of the pharynx to the lingual artery, 882.
Demonomonia, new method of curing, 1019.
Dendy's, Mr. case of inflammation of the brain in a child, 570.
Denmark, medical professorships in, 815; the universities of, 1062.
Denonvilliers, M. election of, as successor to M. Breschet, in the chair of anatomy in the faculty of medicine, 531.
Dental physiology and surgery, Mr. John Tomes's lectures on:—
Lect. 3.—Incisors of adult man; dentine; molars of man; structure of the enamel; molars of adult teeth; bone or cementum, 9—14.
Lect. 4.—Development of animal tissues from nucleated cells; development of the teeth from papillæ composed of cells; the papillæ derived from mucous membrane: three stages of dentition, follicular, saccular, and eruptive, 95—102.
Lect. 5.—On the development of the dental tissues; on the enamel pulp, 272—277.
Lect. 6.—Eruption of the temporary teeth; growth of the jaws; eruption of the permanent teeth; the teeth an index to the age when between seven and thirteen years; third set of teeth; supernumerary teeth; blood-stained and jaundiced teeth; hereditary character of teeth; form of the teeth and palate as necessary to voice and speech, 402—407.
Lect. 7.—Abnormal conditions of the first dentition; diseases of the gums before and during the eruption of the milk teeth; inflammation and induration; diseases of the tissues of the milk teeth; caries and necrosis; diseases of the gums after the eruption of the milk teeth; disease of the alveolar periosteum of the milk teeth; abnormal conditions of the second dentition; irregularity in the time of eruption of the permanent teeth, 757—762.
Lect. 8.—Irregularity in the position of the permanent teeth; general remarks; anterior position of the under teeth, or "under-hung;" antagonism of the cutting edges of the upper and lower front teeth; excessive prominence of the upper front teeth, 1029—1032.
Dental quackery—is a dentist a medical practitioner? 1018.
Deposits, new method of distinguishing arsenical from antimonial, 249.
Diabetes mellitus, Dr. Percy's cases of, 287, 410.
Diagnosis, necessity for accuracy in, 1125.
Diarrhœa in children, Mr. Allen on, and its connection with hydrocephalus, 242; Dr. Golding Bird on the acetate of lead in, 433; connection of, with dentition, 656.
Dick's, Dr. R. practical observations on various forms of dyspepsia, 326 546, 592; on a curious effect of acid irritation on the kidneys, 776.
Digestion and nutrition, M. Bernard on the process of, in herbivorous and carnivorous animals, 870.
Directory, the London medical, reviewed, 167.
Discipline of the medical profession, editorial remarks on the, 208, 557.
Dislocation of the patella upwards, Mr. Moore's report of a case of, 85; of the spine, Mr. Colborne's report of a case of, 924.
Dissection of a pseudencephalic fœtus, Mr. C. Handfield Jones's account of the, 897; premature, 960.
Donation, munificent, to the Queen's College, Birmingham, 753.
Donelly *v.* Scott, Mr. Mason on the case of, 1102.
Dorrington's, Mr. cases of midwifery in which galvanism was applied, with remarks, 941, 1078.
Dove's, Mr. case of strangulation of the bowels from effused coagulable lymph, 703
Dropsical effusions into the peritoneum, on the use of iodine injections in arresting, 249
Dropsy, effect of cold in inducing, 1016.
Duel at Gosport, trial of one of the seconds, —criminal responsibility in cases of death from surgical operations, 697; remarks by the editor, 700.
Duodenum, on Dr. Roberts' cases of ulceration of the, 43.
Dublin Pathological Society, Dr. Law on a case of softening of the brain, 1094.
Dundee Royal Asylum for Lunatics, twenty-

fifth report of the directors of the, reviewed, 866.
Dürkheim, Baron von, notice of the death of, 843.
Dyspepsia, Dr. Dick's practical observations on various forms of, 326, 546, 592.

Earth and sea, Mr. A. S. Taylor on the temperature of the, 393.
Ebers, Dr. on the therapeutical properties of ergotin, chiefly in cases of uterine hæmorrhage, 54.
Eccles, Mr. William, notice of the death of, 753.
Echidna, or ornithorhynchus hystrix, Prof. Owen on the, 215.
Eclair, parliamentary return on the state of the, 1041.
Editorial articles:—French report on vaccination, 36; verdicts of "suicide" by coroners' juries, 76; the Registrar-General's table of births and deaths, 121; reported abandonment of the physic and surgery bill, 162; on the discipline of the medical profession, 208, 557; state of the public health, 1845, 237; the militia act and the medical profession, 238; the new tariff in relation to foreign medical works, 239; objections to the French report on vaccination, 291; mortality in the provinces from small-pox, for the quarter ending December 1845, 345; on the proposed new charter of the Royal College of Surgeons, 381; on the defects in the law regarding child-murder, 381; parliamentary returns respecting licenses to practise medicine and surgery in England, 422, 465; the epidemic fever in Ireland, 514; medical reform in Saxony, 599; the fellowship question and the Royal College of Surgeons, 649; memorial of the Gloucestershire Medical Association, 687; legal and medical quackery, 731; police-office law in cases of insanity, 732, 910; new militia bill, 732; reports of Society of Apothecaries and National Association, 777; the proposed new national institute, 779; the Asiatic cholera, 782; health of towns' bill, 783; proposed College of Pharmacy—pharmaceutical legislation, 821; vaccination and small-pox, spring quarter 1846, 824; health of town and rural populations, 859; the Spafields burial-ground, 907; a case of monomania, 910; the militia act and the medical profession, 956; suggestions on the mode of returning the causes of death, 999; parliamentary return on the state of the Eclair and the African fever, 1041; correspondence on the African fever, 1083; poisonings in Norfolk — Coroners' inquest, 1086; the Harveian oration, 1088; remarks on the completion of the volume, 1118.
Education, preliminary, 766.
Effects of the sirocco, 1018.
Elbow, point of the, Mr. Brown on the disproportionately severe consequences, of slight injuries, &c. about the, 685.
Electricity and magnetism, Professor Faraday's lectures on:—Lect. I. The power of Gravitation: measurement of the power; change of state in bodies—ice, water, and steam—gravitation of gases; carbonic acid. Heat: expansion and contraction; differs from gravitation; heat and cold produced from the same substances; generation of heat; cause of its production by friction inexplicable. Electricity: how produced; overcomes gravitation; attraction and repulsion; the one converted to the other; transference of electricity; Schönbein's electrical paper; electrical machines; duality of electrical force; resinous and vitreous electricity, 977—982.
Electrical girl, 576.
Ellis, Dr. trial of, for manslaughter—abstract of the defence, 1127.
Emphysema of the lungs, vesicular and interlobular, Dr. Bonini on, 889.
English medical practitioners in France, 259.
Epidemic fever, Dr. Wardell's observations on the Scotch, 22, 151, 226, 505, 621, 771.
Epidemic fever in Rotherham, Dr. Shearman on the causes, nature, and treatment of the late, 370.
Epidemic fever in Ireland, editorial observations on the, 514.
Epilepsy, sympathetic, Mr. Lowe's report of a case of, treated with the extract of cannabis sativa, with clinical remarks by Dr. A. T. Thomson, 968.
Epizootic disease in Russia—the Asiatic cholera, 1061.
Epulis, treatment of, by the application of potassa fusa, 1006.
Ergotine, Dr. Ebers on the therapeutical properties of, chiefly in cases of uterine hæmorrhage, 54.
Erichsen's, Mr. practical observations on some of the more important special diseases of the skin, 14, 65, 107, 278, 1072.
Evans's, Mr. J. C. case of poisoning from strychnia, 925; case of colica pictonum, with remarks, 997.
Evidence of live-birth, after the setting in of putrefaction, in a newly-born infant "found dead," by Dr. Francis, 461.
Explanations: a Sequel to the Vestiges of the Natural History of Creation, reviewed, 1045.
Eyes, on the colour of the, 665.

Face, Mr. Crompton on tumors of the, 677.
Fancy fairs and medical charities, 1063.
Faraday's, Professor, lectures on certain metals and metalloid properties.—See "Metals and Metalloid Properties."

Faraday's, Professor, lectures on electricity and magnetism: lecture 1, 977.
Faraday, Professor, on the cohesive force of water; proofs of the existence of this force; measurement of its degree; experiments of MM. Henry and Donné; boiling point of water, 275°; repulsion of water by red-hot metals; spheroidal state of solids and liquids; water and mercury frozen in a red-hot crucible, 1096.
Farringdon General Dispensary and Lying-in-Charity, annual dinner of the supporters of the, 1062.
Fee from a dead man's pocket, 927.
Fellowship question, editorial remarks on the, and the Royal College of Surgeons, 649.
Femoral aneurism, spontaneous cure of; mortification of the toes, 708.
Fergusson, Dr. William, notices of the death of, 87, 532.
Fergusson's, Mr. system of practical surgery, reviewed, 689.
Fever, the Scotch epidemic, of 1843-44, Dr. Wardell's observations on, 22, 151, 226, 505, 621, 771, 948.
Fever, epidemic, in Rotherham, Dr. Shearman on the causes, nature, and treatment of the late, 370.
Fever, the epidemic, in Ireland, editorial observations on the, 514.
Fever, puerperal, on the contagiousness of, and its intimate connection or association with erysipelatous and phlebitic inflammation, 835.
Fever, the yellow, in Spain, 885.
Fever in Ashton-under-Line, 973.
Fever, typhus, at Camberwell, 1020.
Fine arts, medical view of the, 973.
Firth, Dr. Thomas, notice of the death of, 753.
Fisher's, Mr. case of insanity of 15 years' standing, with effusion beneath the dura mater, and the formation of new membrane, 657.
Fistula in ano, particular form of, 907.
Fistulæ, artificial biliary, 1061.
Fistulous opening between the œsophagus and left bronchus, Dr. Winn's case of, 259.
Flaubert, Dr. notice of the death of, 263.
Floodings before and after delivery, Mr. Adams on the nature and treatment of, 139, 437, 796.
Floodings after delivery, Mr. Copeman on the nature and treatment of, 893, 992, 1037.
Fluids, animal, extraction of iodine from, 347.
Fœtus, discussion upon the influence of maternal impressions on, 706.
Fœtus, pseudencephalic, Mr. C. Handfield Jones's account of the dissection of a, 897.
Food, vegetable and animal, 663.
Food, Dr. R. D. Thomson on the relation between the constituents of the, and the systems of animals, 965.
Forbes, Dr. on the present state of medicine, 262.
Foreign body in the œsophagus, 86.
Foster's, Mr. description of marks found on the neck of a child by the umbilical cord, 485.
Fothergillian medal, 380.
Four children at a birth—acephalous monster—discussion upon the influence of maternal impressions on the fœtus, 706.
Fracture of the skull, Mr. Phillips' clinical remarks on a severe case of, 524.
Fractured spine, case of, 791.
Fractured thumb, Mr. C. Hawkins' remarks on a case of, 934.
Fracture, ununited, Sir B. Brodie on the ill success of removing the ends of the bone in cases of, 1032.
Fractures, Sir B. Brodie on certain of the causes of non-union in, 1040.
France's, Mr. translation of Valentin on the functions of the nerves of the orbit, 335, 415, 549, 644, 726, 815.
France, Mr. note from, on the functions of the motor oculi nerve, in reply to Mr. Lonsdale, 619.
Francis's, Dr. account of a newly-born infant, "found dead," in which evidence of live birth was obtained after the setting in of putrefaction, 460.
Frank's, Dr. Martell, practical introduction to the diagnosis and treatment of diseases of the ear, or manual of aural surgery, reviewed, 656.
Free-trade in poisons, 973.
French hospitals in Algeria, 706.
French report on the plague, 797.
French medical society for the prevention of cruelty to animals, 797.
Fungus hæmatodes, Mr. Moyle's case of, 883.

Gall-bladder, case of scirrhus of the, 525.
Galvanism, Mr. Dorrington on the employment of, in cases of midwifery, 941, 1078.
Galvanism, treatment of syphilis by means of, 1015.
General practitioners, meeting of the national association of, 752.
George's, Mr. case of traumatic trismus, with remarks, 394.
Giessen degrees, 973.
Glanders in the human subject, 973.
Gloucestershire Medical Association editorial observations on the memorial of the, 687; memorial of the association, 703.
Glover's, Dr. case of sialarrhœa, with analyses of the saliva and urine, 377.
Golding's, Dr. Ray Charles, table of urinary deposits, 854; on cystic acid in, 1016.
Golding's, Dr. R. C. instance of valvular disease of the left cavities of the heart, 1038.
Goodsir's, Mr. conclusions relative to the

structure and functions of the placenta, 1013.
Gorringe's, Mr. case of poisoning by acetate of lead, 1014.
Grades in law and medicine, separation of, 1126.
Graham's, Professor, analysis of the deep-well water of the London basin, 43.
Gravel, siliceous, Dr. Venables' observations on, 590, 945.
Grayling's, Dr. case of acute pleurisy, giving rise to effusion of a large quantity of puriform matter into the cavity of the pleura; operation of paracentesis thoracis followed by complete recovery, 632.
Green, Mr. J. H. election of, as a member of the Court of Examiners of the Royal College of Surgeons, 531.
Green, Dr. George, notice of the death of, 706.
Gregson's, Mr. case of extirpation of the uterus, 342.
Guano, therapeutic properties of, 975.
Guinea worm at Cape Coast Castle, Dr. W. Robinson's observations on, 70.
Gullet, expulsion of a piece of bone from the, at the end of eight months, 449.
Gunpowder, Mr. Stafford's cases of injuries caused by the explosion of, 322.
Gun-shot wound, Mr. Cotton's case of, 206.
Guthrie's, Mr. C. G. work on cataract, reviewed, 164.
Guy's hospital reports, No. VI. reviewed, 239, 297.
Guy's hospital annual dinner, 439.
Guy's, Dr. conclusions respecting the influence of various employments in inducing pulmonary consumption, 886.

Hæmorrhage from leech-bites, mode of arresting, 1125.
Haidinger's, W. retrospect of mineralogy for the year 1843, reviewed, 691.
Hall, Dr. J. C. on ligature of the posterior tibial artery for a wound, 233.
Hamilton's, Mr. case of rupture of the bladder, 924.
Hanging, Mr. Noyce's case of, successfully treated by the affusion of cold water, 75.
Hannay, Dr. notice of the death of, 219.
Hanwell lunatic asylum, the commissioners of lunacy on the, 704.
Harding's, Mr. case of disease of the ankle-joint, 481.
Harrison, Dr. Edwin, notice of the death of, 219.
Harveian oration, editorial notice of the, 1088.
Harvey, Mr. on uterine hæmorrhage after the expulsion of the placenta, 219.
Harvey's, Mr. account of a very unusual mark (nævus?) on the neck of an infant, 379.
Hawkins's, Mr. C. clinical lecture on—1, uterine phlebitis; secondary abscesses—2, fractured thumb; inflamed absorbents; secondary abscesses — 3, cut throat; secondary abscesses; gangrene of the arm, 933-940.
Hawkins's, Mr. C. clinical lecture on—1, fibrous tumor of the upper jaw; epulis—2, fibrous tumor of the palate—3, case of warts, nævi, and serous cysts, 1021-1028.
Hawkins's, Mr. C. clinical lecture on—1, caries of lumbar vertebræ; abscess of the sacro-iliac joint; dislocation of the hip—2, caries of lumbar vertebræ; lumbar and psoas abscess; hæmorrhage, &c.—3, caries of dorsal vertebræ; angular curvature—4, caries of cervical vertebræ; paraplegia and spasm of muscles—5, caries of dorsal vertebræ; sudden paraplegia—6, abscess in inguinal canal; disease of spine (?)—7, abscess of nates; disease of spine (?), 1109-1116.
Hæmatodes, fungus, Mr. Moyle's case of, 883.
Hæmorrhage, Dr. Radford on the application of galvanism in a case of accidental, 19.
Hæmorrhage from sloughing, Dr. J. H. Davis on the period at which it occurs after delivery, 302.
Hæmorrhage, periodical, from the bowels, 540.
Hæmorrhage, death from, from extension of a venereal ulcer of the pharynx to the lingual artery, 882.
Hæmorrhage from the gums, Mr. Sterry's case of, 918.
Health of towns' bill, editorial notice of the, 783.
Health of town and rural populations, editorial observations on the, 859.
Heart, Dr. Golding's case of valvular disease of the left cavities of the, 1038.
Heart, Mr. Meade's case of rupture of the, from fatty degeneration of that organ, 1054.
Heat, therapeutic effects of animal, 75, 513.
Heat in the dead body, remarkable case of the development of, 926.
Heller's, Dr. J. F. archives of physiological and pathological chemistry, including microscopical researches, in their relations to practical medicine, reviewed, 917.
Heller's analysis of the fluid of hydrocele, 1059.
Hemlcken's, Mr. report of an obscure case of jaundice, occurring at Guy's Hospital, 695.
Hernia, strangulated, Mr. B. Phillips's cases of, 436, 635; Mr. Bourne's case of strangulated inguinal, 882.
Heward, Sir Simon, notice of the death of, 753.
Hewett's, Mr. case of aneurism, 388.
Hicks, Mr. on the treatment of pneumonia as occurring in children, 41; case of pericarditis, 306.
Higginbottom, Mr. on ipecacuanha in emetic doses as a powerful restorative in certain cases of exhaustion and sinking, 880.

Hilton's, Mr. case of tetanus, 432.
Holden's, Mr. Luther, report of surgical cases at St. Bartholomew's Hospital:—compound fracture of the skull, with laceration of the dura mater, and protrusion of the brain, hernia cerebri, death on the thirty-third day, 1098; large irreducible scrotal hernia, doubtful symptoms of strangulation, operation on the fifth day, neck of the sac found quite free, death, stricture caused by a membranous band within the sac, unusual position of the testicle, 1100; wound of the head, delirium tremens, erysipelas of the scalp, suppuration beneath the tendon of the occipito-frontal muscle, death, disease of the lungs, liver and kidneys, 1101.
Horsley's, Mr. direct antidote to the salts of copper and bichloride of mercury, 795.
Hospitals, statistics of, and the general mortality of the principal cities of Europe, 300; British, at Damascus, 885; of Naples, strange practices in some of the, 929.
Hughes, Dr. H. M. on paracentesis thoracis, with cases, 281, 365, 449, 541, 673, 716.
Humboldt's, Alexander von, Cosmos, a general survey of the physical phenomena of the universe, reviewed, 241; honours conferred on, 1062.
Hunterian oration, 350; vote of censure on, 439.
Hutchinson, Mr. on the capacity of the lungs, and on the respiratory movements, with the view of establishing a precise and easy method of detecting disease by the spirometer, 1047.
Hydatids in the spinal cord and nerves, 172; found free in the blood, Klencke's examination of, 836.
Hydatid cyst, Mr. Lowdell's case of, either originating in, or pressing upon, the prostate gland, 1054.
Hydrocele, spermatozoa in the fluid of, 972; analysis of the fluid of, by Heller, 1059; cure of, 1089.
Hydrocephalus, analysis of the fluid of, evacuated by puncture, 627.
Hydropathic case, the — abstract of the defence, 1127.
Hydropathy in Brittany, 364.
Hydrophobia, case of, 843.
Hygiene, military, Mr. F. Roberts on, 28.
Hypotheses, 175.
Hysteria, Dr. Todd's case of, 869; paralysis of the abdominal muscles in, 1104.
Hysterical affections of the knee, Sir B. C. Brodie on, 626.

Icterus, pulse in, 1083.
Iliac, Mr. Edwin Lee on the operation for tying the external, Mr. Seton's case, 837.
Illegal practice of medicine, prosecution of M. Raspail for the, 928; conviction of, 975.
Illegality of the proceedings of the Royal College of Surgeons, 753.
Impressions produced by powerful odours, 1078.
Impressment of surgeons in the 17th century, 925.
Impunity with which caustics may generally be applied, 762.
Infanticide, on a source of error in supposed, 808.
Inflammation, pelvic, Mr. Bell's cases of, ending in abscess, 59, 102.
Inflammatory disease, Dr. Mayo's case of, with observations on the facility with which it might escape detection when present in the hysterical diathesis, 196.
Infusoria, tenacity of life in, 262
Inguinal hernia, Mr. Bourne's case of strangulated, 882.
Injection, fine, new kind of, 8.
Injection apparatus, new, 351.
Insanity, suddenly fatal issue of certain cases of, 170; relapses among the cases of, at the Saltpétrière, 291; Dr. Mayo on the plea of, in its relation to a recent trial, 421; Mr. Fisher's case of, of fifteen years' standing, with effusion beneath the dura mater, and the formation of new membrane, 657; editorial observations on police-office law in cases of, 732, 910; in France, increase of, 1105.
Inversion of the uterus, conception occurring after, 1071.
Iodic test for the detection of sulphuric acid in organic matter, Mr. A. S. Taylor on certain fallacies connected with the use of the, 954.
Iodine, extraction of, from animal fluids, 347; from iodized baths, 348.
Iodine, adulteration of, 945, 1104.
Iodine, danger of performing operations after a long-continued course of, 953.
Ipecacuanha in emetic doses a powerful restorative in certain cases of exhaustion and sinking, 880.
Ireland, state of public health in, 928.
Iron, lactate of, new method of preparing, 348.
Itch, Dr. Burgess's account of some experiments made with a concentrated alcoholic extract of stavesacre for the care of, 608.

Jaundice, obscure case of, occurring at Guy's Hospital, reported by Mr. Hemlcken, 695.
Jones, Mr. C. Handfield, on some points in the structure of the spleen and supra-renal capsules, 472; account by, of the dissection of a pseudencephalic fœtus, 897.
Johnson's, Mr. method by which an observer may see the retina in his own eye, 885.

Kenning, Dr. Samuel, notice of the death of, 264.
Kidneys, Prof. Schonbein's remarks on scrofulous degeneration of the, 649.
Kidneys, acid irritation of the, Dr. Dick on a curious effect of, 776.

Kidney, M. Lebert's researches on the state of the, in Morbus Brightii, 882.
King's, Mr. T. W. observations on ligatures and aneurisms, 200, 595, 637, 855, 901.
King's College, annual distribution of prizes at, 799; annual festival of the, 972
Kinrosshire Medical Association, queries addressed by the, to the practitioners of the district, 21.
Kirk's, Mr., case of cancerous disease, with fracture of the femur from muscular action, 72; case of chronic bronchitis, complicated with dropsy and paralysis, 616.
Knee joint, Sir B. C. Brodie's lectures on diseases of the, 221, 397, 489, 623; extensive wound of the, 348; anchylosed at a right angle; restored nearly to a straight position by removal of a wedge-shaped portion of bone, 877.
Knowledge and art, Herschel's definition of, 112, 127.
Kystein, Dr. Möller's researches on, 983.

Labour, difficult, Mr. G. Millet Davis's case of, from malformation of the os uteri and vagina, 500.
Lachrymal calculus, Mr. Syme's case of, 1036.
Lallemand, M., on thermal sulphureous waters in the treatment of phthisis. 249.
Landmann's Dr. German translation of Rayer on diseases of the kidneys, and on morbid changes in the urinary secretion, reviewed, 655.
Lane, Mr. Butler, on the use of the oxide of silver, 640, 763.
Lavoisier, the descendants of, 705.
Law, Dr. on a case of softening of the brain, 1094.
Law and medicine, separation of grades in, 1126.
Lawrence's, Mr. Hunterian oration reviewed, 652.
Lebert's, M. researches on the state of the kidney in morbus Brightii, 882.
Lee, Dr. John, notice of the death of, 800.
Lee, Mr. Edwin, on the operation for tying the external iliac; Mr. Seton's case, 837.
Lee's, Mr. Henry, table of secondary inflammations, with observations, 988, 1032.
Leech-bites, mode of arresting hæmorrhage from, 1125.
Leeches, preservation of, 706.
Le , Sir G. W. notice of the death of,

L d medical quackery, editorial reon, 731.
Legislation for the medical profession, 64.
Lever's, Dr. J. C. W. clinical lecture on diseases of the uterus and its appendages, 45; on midwifery, 177; on enlargements of the uterus, 353; on pelvic abscess, 443.
Lever's, Dr. cases of tumor in the abdomen, 745.
Levy, M. on the comparative prevalence of phthisis in various localities, 887.
Liebig, Baron, on amorphous quinine, as it exists in the substance known in commerce as quinoidine, 970.
Licenses to practice medicine and surgery in England, editorial observations on the parliamentary returns respecting, 422, 465.
Life insurance, policy of, vitiated by concealment of hernia—diagnosis of hernia—medical evidence—medical ethics, 748; additional notice, 1060.
Ligatures and aneurisms, Mr. T. W. King's observations on, 200, 595, 637, 855, 901.
Lightning case at Rouen, 577.
Lindley's, Dr. Vegetable Kingdom, or the structure, classification, and uses of plants; illustrated upon the natural system, reviewed, 960.
Liston, Mr. election of, as a member of the court of examiners in the Royal College of Surgeons, 576.
Liston's, Mr. remarks on wounded arteries, secondary hæmorrhage, and false aneurisms, 740.
Lithotrity, new instrument for, 843.
Liver, Dr G. Budd on diseases of the, reviewed, 38.
Liver, Dr. J. Macpherson's case of removal of a portion of the, from the human subject, 112.
Liver, suppurative hydatid cyst of the, note from Mr. Alexander respecting a case of, 619.
London Hospital, patients admitted during the last year, 753; amount of subscriptions received at the anniversary dinner of the, 798; statistical account of the accidents brought to the, during the year 1845, 840.
Lonsdale, Mr. on the functions of the motor oculi nerve, 573.
Loss of blood in operations, 852.
Lowdell's, Mr. case of hydatid cyst, either originating in, or pressing upon, the prostate gland, 1054.
Lowe's, Mr. Septimus, report of a case of sympathetic epilepsy treated with the extract of cannabis sativa, with clinical remarks by Dr. A. T. Thomson, 968.
Lunacy act, on the new, 83.
Lunacy, certificates of, 485.
Lunacy, report of commissioners in, 532.
Lunacy, the commissioners of, on the Hanwell Lunatic Asylum, 704.
Lungs, Dr. Bonino on vesicular and interlobular emphysema of the, 889.
Lungs, tuberculous abscess of the, opening externally, 1016.
Lungs, Mr. Hutchinson on the capacity of the, 1047.

M'Dowell, Mr. James, notice of the death of, 577.
Maclagan's, Dr. account of a case of rupture of the gall-bladder from external violence, 967.
Macpherson's, Dr J. case of removal of a portion of the liver from the human subject, 112,
M'Whinnie, Mr. on the varieties in the muscular system of the human body, 184.
Maffei and Röch's, Drs. researches on cretinism, reviewed, 868.
Magnesia an antidote to arsenic, 974.
Magnetism and light, 248.
Malapraxis in midwifery, trial for alleged treatment of cases of placenta prævia, 875.
Malaria in the neighbourhood of Bermondsey, 919.
Malignant cholera, notice of the, 705.
Mann's, Mr Charles, case of poisoning by opium, with remarks by Mr. A. S. Taylor, 724.
Manna from Asia Minor, 885.
Marks produced on the neck of a child by the umbilical cord, 485.
Mason, Mr. on the case of Donelly *v.* Scott, 1102.
Materia medica and therapeutics, Drs. Ballard and Garrod's elements of, reviewed, 79.
Maternal impressions on the fœtus, discussion on the influence of, 706.
Maxilla, superior, Mr. Solly's clinical lecture on diseases of the, requiring operation, 89.
Mayo's, Dr. record of cases, 196, 421, 809.
Meade's, Mr. case of rupture of the heart from fatty degeneration of that organ, 1054.
Means of counteracting the action of caustics, 777.
Measles transmitted by inoculation, 139.
Medical Jurisprudence, Mr. A. S. Taylor's lectures on :—
LECT. 1.—Definition of the science; difference in the duties of the medical practitioner and medical jurist; importance of the subject; knowledge of the science possessed by barristers; medical counsel and medical witnesses; rules regarding the delivery of evidence; cross-examination; medical evidence in the case of the Queen *v.* Hunter; the science requires special study; evidence of John Hunter; limits of the science; cases which most frequently present themselves; secret deaths from poisoning; importance of the study of practical toxicology; 1-8.
LECT. 2.—The signs of death; absence of respiration and circulation; coldness of the body; circumstances which accelerate or retard the process of cooling; retention of warmth by the body; case; observations of Dr. Davy; cadaverous rigidity, its seat, causes, period of commencement, occurs while the body is warm, circumstances which modify its duration, its successive appearance in the trunk and extremities, its effects on the countenance, condition of the hand, flexion of the fingers, translucency, state of the eyes and skin; 133-139.
LECT. 3.—Cadaverous spasm; evidence furnished by the position of a dead body; weapons grasped in the hands of suicides; case of Lord W. Russell; question of identity; suicide mistaken for murder; evidence of interference with a dead body; Reid's case; cadaverous spasm passes into cadaverous rigidity; suspected murder from the position of a dead body; case of Courbon; loss of muscular irritability; application of galvanic and mechanical stimuli; order of its disappearance; effect of disease; cadaverous lividity mistaken for marks of violence, cases, nature of, how known from marks of violence; vibices; changes of colour in lividity; period of its accession; ecchymosis from incipient putrefaction; 309-316.
LECT. 4.—Coagulation of the blood as a sign of death; PUTREFACTION, period of its occurrence, post-mortem hæmorrhage, pseudo-morbid appearances in the alimentary canal, change of colour in the skin, conclusions respecting this sign of death; putrefaction in air, influence of temperature and moisture, action of oxygen, modifying conditions, age, peculiarity of constitution, state of the body, influence of disease, effect of poisons, antiseptic properties of arsenic; putrefaction in water, circumstances which modify its progress, buoyancy of drowned subjects from gaseous putrefaction; 535 540.
LECT. 5.—On putrefaction in the earth; changes in the viscera; variable rapidity in the putrefaction of bodies buried in graves; period for the destruction of the soft parts, and exposure of the bones; indestructibility of the teeth and hair; circumstances which affect the putrefaction of bodies in graves; period of interment; deposition of ova by insects; depth of the grave; state in which the body is buried; preservative influence of the soil of privies; saponification of the body; mode of production of adipocere; its nature and properties; circumstances which favour its production; time required; the proofs of the REALITY of DEATH; alleged cases of premature interment; mistakes made by ignorant persons; laws regarding the burial of the dead in different countries; early interments during the prevalence of cholera, 1065-1071.
Medical and legal quackery, editorial remarks on, 731.
Medical charities and fancy fairs, 1063.

Medical discipline is medical reform—the power of expulsion—letter from a correspondent on, 301.
Medical discipline, letter from a correspondent on, with remarks by the editor, 617.
Medical police and public hygiene, Dr. Strange on the formation of a system of national; with observations on those clauses of the health of towns' bills which refer to the appointment of district medical officers of health, 452.
Medical practitioners, honours conferred on British, 928.
Medical profession, legislation for the, 64.
Medical professorships in Denmark, 815.
Medical publications in France, 665.
Medical reform in England, French view of, 351; in Spain, ib.
Medical reform and the national association of general practitioners, 531.
Medical reform in Saxony, editorial remarks on 599.
Medical reform, notice respecting, 706.
Medical services in poor-law unions, payments for, 843.
Medical Society of London, papers read at the:—Dr. T. Williams' cases of renal dropsy, 82; Dr. Clutterbuck on delirium cum tremore, ib.; Bright's disease in children, 245; Dr. G. O. Rees on a remarkable case of paraplegia, ib.; Mr. Hilton's case of tetanus, 432; Dr. Golding Bird on the acetate of lead in diarrhœa, 433; Dr. Thomson's case of scirrhus of the thymus gland, ib.; treatment of spina bifida, 434; Dr. Scott Alison on arthritis occurring in the course of paralysis, ib.; Mr. Dendy's case of inflammation of the brain in a child, 570; Mr Pilcher's case of stricture of the rectum, constipation for thirty days, 570; Mr. Storks' case of popliteal aneurism successfully treated by pressure, 571; discussion on the nature and treatment of purpura, 662; notice of Mr. Philp's new enema syringe, 791; Mr. Fisher's case of albuminuria, ib.; remarks on a case of stammering, 872; Dr. Golding Bird's case of contraction of the prepuce, 873
Medical Society of London, anniversary meeting of the, 439; election of office-bearers, 486.
Medical society for the prevention of cruelty to animals, 797.
Medical Trials and Inquests:—
Oxford Circuit.—Trial for murder; evidence from blood-stains; wounds in different parts of the body; proof of homicide; conviction on circumstantial evidence, 610. Trial for alleged malapraxis in midwifery; treatment of cases of placenta prævia, 875.
Western Circuit.—The duel at Gosport; criminal responsibility in cases of death from surgical operations, 697.
Midland Circuit.—Policy of Life insurance vitiated by concealment of hernia; diagnosis of hernia; medical evidence; medical ethics, 748.
Norwich Lent Assizes.—Trial for the attempt to procure abortion; is white hellebore a poison? 830.
Nottingham Lent Assizes.—Trial for attempting to procure abortion by mechanical means; death from other causes; evidence from the presence of corpora lutea; is it necessary that there should be proof of pregnancy? 831.
North Wales Circuit.—Charge of attempting to poison by red precipitate, 874.
Central Criminal Court.—Trial for poisoning by arsenic; detection of the poison in the body; the alleged presence of normal arsenic in the bones, and in the earth of cemeteries; failure of proof of administration, 919.
Coroner's Inquest in a case of alleged child murder, 1007. In a case of death from the cold-water treatment; verdict of manslaughter against a hydropathic practitioner; indecent cross-examination of medical witnesses, 1055.
Medical view of the fine arts, 973.
Medical witnesses, payment of, 798.
Medicine, Dr. Forbes on the present state of, 262.
Meikleham, Professor, notice of the death of, 930.
Melanosis, Mr. Coote's cases of, with observations, 1051.
Mellis, Dr. James, notice of the death of, 532.
Memoranda for contagionists and non-contagionists, 1116.
Memorial of the Gloucestershire medical association, 703; editorial observations on the, 687.
Menorrhagia, Dr. Lever on a case of passive, 48.
Mercier's, Dr. researches on stricture of the urethra, 316, 494, 628, 801.
Mercury, Professor Faraday on the properties of, 360.
Merriman s, Dr. case of abscess of the brain, 609.
Mesmeric surgery, 1106.
Mesmerism in surgical operations, new effect of, 351.
Metallic colic, M. Chevallier on the occupations of those who are most exposed to, 170.
Metals and metallic properties, Professor Faraday's lectures on certain:—
Lect. 6.—Mercury: Density: liquidity; fusibility compared with other metals; freezing of mercury by solid carbonic acid; water frozen by melting mercury; its vaporous state; amalgam with tin; silvering of mirrors; oxidation and deoxidation by heat; its compounds

with chlorine ; use of corrosive sublimate in preventing dry-rot ; 360-364.

Lect. 7.—Zinc : Colour ; brittleness ; malleability at high temperatures ; combustibility ; its use in the voltaic battery ; voltaic pile ; Grove's battery ; its power in effecting chemical decompositions ; voltaic action depends on chemical affinity; 579 584.

Lect. 8.—Silver : Lustre ; cause of tarnish ; its power of reflecting light and heat compared with other metals ; absorption of oxygen when melted ; weak affinity for oxygen ; action of chlorine ; deposit of metallic silver on glass and other bodies; deposit by voltaic electricity; conclusion of the course ; 711 716.

Meteorological summary, 44, 132, 176, 220, 264, 308, 352, 396, 441, 485, 533, 578, 622, 666, 710, 755, 800, 844, 888, 931, 976, 1020, 1064.

Mialhe, M. on the digestion and assimilation of amylaceous and saccharine matters, 788.

Microscope, physiological applications of the, 87 ; Dr. Davy on the use of the, as an aid in chemical inquiry, 1011.

Microscopical Society, paper read at the:— Mr. Quekett on the intimate structure of bone in the four great classes of animals, 692.

Middlesex hospital, notice respecting Mr. Tuson, 294 ; annual dinner of the governors of, 926.

Midwifery, and the diseases of women, Dr. Lever's clinical lectures on :—

Lect. 3. — On diseases of the uterus and its appendages : Case 1, vascular tumor of the orifice of the meatus urinarius, 45 ; case 2, passive menorrhagia, 48 ; case 3, vesicular polypus of the uterus, 50.

Lect. 4.—Cases in midwifery: case 1, multipara ; antero-posterior diameter of the brim contracted ; long forceps unsuccessfully employed ; subsequent cranioto my performed ; child male, 177 ; case 2, hæmorrhage after the birth of the child ; adhesion of placenta ; thirteenth confinement ; recovery, 179; case 3, sixteenth confinement ; hæmorrhage after the birth of the child ; alternate contraction and dilatation of the uterus ; stimulants and ergot administered, 180; nature of labour ; symptoms after the delivery of the child, 181 ; treatment, 182 ; preventive measures, 183.

Lect. 5. — On enlargements of the uterus : case 1, persistence of puerperal hypertrophy ; subacute inflammation ; treatment ; ulceration ; cure by the nitrate of silver, 353 ; case 2, chronic inflammation of the uterus, with hypertrophy ; treatment—rest, local depletion, mercury, 356 ; case 3, enlargement of the uterus ; value of uterine sound in diagnosis, 357.

Lect. 6.—Pelvic abscess ; third attack ; bursting into the rectum ; partial peritonitis ; friction sound ; treatment by leeches, calomel, antimony, and opium ; sequelæ, &c. 443—449.

Military Hygiene, Mr. Frederic Roberts on, 28.

Militia act and the medical profession, editorial remarks on the, 238 ; additional observations by the editor, 956.

Militia bill, medical men not exempted from its provisions, 732.

Milk, alterations of the, 35.

Miller's, Mr. James, practice of surgery, reviewed, 689.

Mode of returning the causes of death, editorial suggestions on the, 999.

Models, anatomical, 797.

Möller's, Dr. researches on kystein, 983.

Monomania, editorial remarks on a case of, 910.

Monster, acephalous, account of, being one of four children born at a single birth—discussion upon the influence of maternal impressions on the fœtus, 706.

Monstrosity, partial double, Mr. Acton's account of a case of, 521 ; further account, 619.

Montrose Lunatic Asylum, Infirmary, and Dispensary, report of the directors of the, reviewed, 866.

Moore's, Mr. J. reports of cases treated at Birmingham Queen's hospital, 85.

Morbus eruditorum, 795.

Mortality in the metropolis for the year 1845, 576 ; ancient bills of, 804.

Mortification from sudden loss of blood, 770.

Motor oculi nerve, Mr. Lonsdale on the functions of the, 573 ; note by Mr. France on, 619.

Mott, Dr. Valentine, on the exsection of the lower jaw for osteo-sarcoma, 527.

Monart's, Dr. Fred. J. observations on the nosological arrangement of the Bengal medical returns, with a few cursory remarks on medical topography and military hygiene, reviewed, 785.

Moyle's, Mr. case of fungus hæmatodes, 883.

Munk's, Dr. cases of erysipelas, 659.

Murder, trial for, at the Oxford circuit—evidence from blood-stains—wounds in different parts of the body—proof of homicide—conviction on circumstantial evidence, 610.

Murphy's, Dr. lectures on natural and difficult parturition, reviewed, 427.

Muscular system of the human body, Mr. M'Whinnie on the varieties in the, 184.

Nævus (?) Mr. Harvey's account of a very unusual mark on the neck of an infant, 379.

Nævi materni mistaken for marks of violence, Mr. Rose's case of, 530.

Nanula, Professor Antonio, notice of the death of, 665.

Narcotics, Dr. J. Williams' essay on the use of, reviewed, 81.
National Association of Medical Practitioners, letter from Sir J. Graham to a deputation of the, 531; meeting of the, 752; dinner to R. R. Pennington, Esq. 1062.
National institute, editorial remarks on the proposed new, 779.
Neapolitan hospitals, strange practices in some of the, 929.
Necessity for accuracy in diagnosis, 1125.
Neuralgia and toothache, new method of employing muriate of morphia for, 218; coffee as a remedy for, 1016.
New instrument for lithotrity, 843.
New method of curing demonomania, 1019.
New South Wales, climate of, 840.
Non-union in fractures, Sir B. Brodie on certain of the causes of, 1040.
Noyce's, Mr. case of hanging successfully treated by the affusion of cold water, 75.

Odours, impression produced by powerful, 1078.
Œnantha crocata, attempted poisoning by, 171.
Oldham's, Dr. Henry, clinical lecture on diseases of the uterus, 667; Case 1, fungoid growth from the os uteri—removal by ligature—nitric acid, 668; Case 2 abortion—hypertrophy and ulceration of the neck of the womb; scarification; nitrate of silver; iodine, 671; on a follicular disease of the vulva, with cases, 845.
Olley's, Mr. account of a new compound of gallic acid, oxide of lead, and potash, 615.
Omentum, cystiform tumor of the, 172.
Operation, a bold surgical, 350.
Opium, Dr. Sharkey's cases of poisoning by, 235.
Opium, Mr. Mann's case of poisoning by, with remarks by Mr. A. S. Taylor, 724.
Oration, Dr. Chambers's, delivered at the anniversary meeting of the Royal Medical and Chirurgical Society, 473.
Oration, Mr. Lawrence's Hunterian, reviewed, 652.
Orbit, Valentin on the functions of the nerves of the, Mr. France's translation of, 335, 415, 549, 644, 726, 815.
Osteo-sarcoma, on exsection of the lower jaw for, correspondence respecting, 527.
Ovarian dropsy, Mr. Bencraft's report of a case of, with clinical remarks by Dr. A. T. Thomson, 482.
Ovariotomy, Mr. Southam's case of, 915.
Oxalate of lime in the urine, Mr. Pooley's notes of seven cases of, 502.
Oxalic acid, inspection of the stomachs of three persons poisoned by, 792.
Oxaluria, Dr. Shearman's cases of, 407.
Oxford examination for M.B. 885.
Oxide of silver, Mr. Butler Lane on the use of, 640, 763.

Paget's, Mr. account of a case in which the corpus callosum, septum lucidum, and fornix, were imperfectly formed, 522.
Paracentesis thoracis, Dr. H. M. Hughes on, with cases, 281, 365, 449, 541, 673, 716; Dr. Grayling's case of acute pleurisy in which the operation was performed, followed by perfect recovery, 632.
Paralysis of the abdominal muscles in hysteria, 1104.
Paralysis of the hands from the use of crutches, 1125.
Paraplegia, Dr. G. O. Rees on a remarkable case of, 245.
Parisian hospitals, legacy to the, 665.
Parisian hospitals and infirmaries, number of patients admitted and discharged for the first quarter of 1846, 929.
Parker, Mr. Langston, on the modern treatment of syphilitic diseases, both primary and secondary; comprising numerous formulæ for the preparation and mode of administration of the new remedies; and an account of a safe and successful mode of treating chronic, protracted, and constitutional syphilis by the mercurial vapour bath, reviewed, 601.
Parliamentary returns respecting licenses to practise medicine and surgery, editorial observations on the, 422; return on the state of the Eclair, editorial observations on the, 1041.
Parturition, influence of the sex of the child in delaying, 526.
Patronage of quackery, 1018.
Payment of medical witnesses, 798.
Payments for medical services in poor-law unions, 843.
Peacock's Dr. cases of lateral or partial aneurism of the heart, with remarks, 606.
Penis, amputation of the, 437; wound of the, from the bite of a horse, 672.
Pendulous tumors of the breast, 1119.
Percy's, Dr. cases of diabetes mellitus, 287, 410; analyses of the liquid of spina bifidia, 851.
Pericarditis, Mr. Hicks's case of, 306.
Peritonitis, value of friction vibrations in, 87.
Peritonitis after contusions of the abdomen, 460.
Peritonitis, case of attacks of shivering—inflammation of the vena portæ—death. Remarks on inflammation of the portal vein in general, 881.
Petréquin and Besanez's manual of medico-chirurgical and topographical anatomy, reviewed, 965.
Phillips', Mr. B. remarks on cases treated in the Westminster Hospital, 51, 435, 524, 692; case of strangulated hernia, 655; Scrofula—its nature, its causes, its prevalence, and the principles of its treatment, reviewed, 733; pamphlet on the potato disease, reviewed, 384.
Phlebitis, uterine, Mr. C. Hawkins on, 933.

Phthisis pulmonalis, Dr. Camps on certain pathological conditions of the blood as it exists in, 852.
Phthisis, comparative prevalence of, in various localities, 887.
Physic and Surgery bill, editorial observations on the reported abandonment of the, 162.
Physician killed by taking the medicine which he had prescribed for a patient, 1061.
Physiology in France, progress of, 127.
Pilcher's, Mr. case of stricture of the rectum—constipation for 30 days, 570.
Pinckard, Dr. Richard, notice of the death of, 532.
Pins, swallowing of, 836.
Placenta, Mr. J. B. Thomson's case of retention of the, 42.
Placenta presentation, Mr. Simking's case of partial, 174.
Placenta prævia, Mr. Sticking's case of, 815.
Placenta prævia, treatment of cases of, 876.
Placenta, Mr. Goodsir's conclusions relative to the structure and functions of the, 1103.
Plague, French report on the, 797.
Pleurisy, Dr. Grayling's case of acute, giving rise to effusion of a large quantity of puriform matter into the cavity of the pleura; operation of paracentesis thoracis followed by complete recovery, 632.
Plica polonica of vegetable origin, 843.
Pneumonia, Mr. Hicks on the treatment of, as occurring in children, 41.
Pneumonia in the old treated without bloodletting, 940.
Poison, charge of attempting to, by red precipitate, 874.
Poisons, free trade in, 973.
Poisoning by fish, cases of, 621.
Poisoning by strychnia, 716.
Poisoning by oxalic acid, Dr. Geoghegan on, 792.
Poisoning by opium, Mr. Mann's case of, with remarks by Mr. A. S. Taylor, 724.
Poisoning by strychnia, report of a case of, 833.
Poisoning by arsenic, trial for—detection of the poison in the body—the alleged presence of normal arsenic in the bones, and in the earth of cemeteries—failure of proof of administration, 919.
Poisoning from strychnia, Mr. Evans's case of, 925.
Poisoning, wholesale, at Enniscorthy, 1105.
Poisoning by acetate of lead, Mr. Gorring's case of, 1014.
Poisonings in Norfolk, editorial remarks on the, 1086.
Poisoned wounds, 1088.
Police-office law in cases of insanity, editorial observations on, 732, 910.
Policy of life insurance, vitiated by concealment of hernia—diagnosis of hernia—medical evidence—medical ethics, 748.
Polypus of the uterus, Dr Lever on a case of, 50.
Pooley's, Mr. notes of several cases of oxalate of lime in the urine, 502.
Potassa fusa, Sir B. Brodie on the treatment of epulis by the application of, 1006.
Potatoes, symptoms produced by eating diseased, 333.
Pregnancy, concealed, with suspected child-murder, 53; a new sign of, 343; state of the urine in, 947.
Preliminary education, 766.
Premature dissection, 960.
Prescriptions of a court surgeon in the sixteenth century, 1047.
Preservation of bodies, 797.
Preservation of leeches, 706.
Preston's, Mr. "Open Surgery" question considered, and its general adoption advocated, reviewed, 1004; note from, respecting the criticism on his pamphlet, 1125.
Pretty, Mr. on the treatment of uterine hæmorrhage after delivery, 114.
Prize essay, medical, 286.
Prizes, annual distribution of, at King's College, 799.
Prizes of the Royal College of Surgeons, 930.
Profession, signs of an overstocked, 798.
Prosecution of M. Raspail, 928; conviction of, 975.
Prostate gland, on the treatment of a peculiar form of disease of the, 879.
Prussic acid, new test for, 706.
Pseudencephalic fœtus, Dr. C. Handfield Jones's account of the dissection of a, 897.
Psoriasis, Mr. Waddington on the treatment of, 325.
Public health, editorial observations on the state of the, 237; Registrar-General's Quarterly Reports on, 259, 839.
Public health in Ireland, state of, 928.
Puerperal fever, on the contagiousness of, and its intimate connection or association with erysipelatous and phlebitic inflammation, 835.
Pulmonary consumption, Dr. Guy's conclusions respecting the influence of various employments in inducing, 886.
Pulse in icterus, 1083.
Purpura, discussion at the Medical Society of London on the nature and treatment of, 662.
Pus, on the detection of, in the blood and other animal fluids, 168.
Pus, on the reabsorption of, 794.
Putrefaction in the earth, Mr. A. S. Taylor on, 1065.
Pyrosis, case of, 171.

Quackery, support given to, by medical journals, 260; legal and medical, editorial observations on, 731; in the 16th century, 850; dental—is a dentist a

medical practitioner? 1018; patronage of, 1018; cause of the success of, 1107.
Quain's, Dr. Anatomy, fifth edition, reviewed, 385.
Quarantine, relaxation of the French law of, 1060
Quekett, Mr. on the intimate structure of bone in the four great classes of animals, 692.
Queen's College, Birmingham, prizes offered to resident students, 665; donation to, 753; plans and regulations adopted at, 486.
Quinine, amorphous, Baron Liebig on, as it exists in the substance known in commerce as quinoidine. 970.
Quinine, amorphous, remarks on, 1117.

Radford, Dr. T. on the application of galvanism in a case of accidental hæmorrhage, 19.
Rainey, Mr. on the ganglionic character of the arachnoid membrane of the brain and spinal marrow, 389.
Ranula, M. Petrequin on, 330.
Ranunculus bulbosus, Mr. Baines on the effects of, 1060.
Raspail, M. prosecution of, for the illegal practice of medicine, 928; conviction of, 975.
Rectum, Dr. Williamson's case in which the urethra terminated in the, the child living upwards of eight months, 767, 804.
Rees, Dr. G. O. on a remarkable case of paraplegia, 245.
Reichenbach's, Baron von, abstract of researches on magnetism, and on certain allied subjects, including a supposed new imponderable, reviewed, 911.
Reform, medical, notice respecting, 706.
Registrar-General's report, for the quarter ending March 31, 1846, 839.
Relaxation of the French law of quarantine, 1060.
Remarkable trial; fee from a dead man's pocket, 927.
Remuneration of medical practitioners in Syria, 929.
Reports of the medical officers of the lunatic asylum for the County of Lancaster, reviewed, 467.
Reports of Society of Apothecaries and National Association, editorial observations on the, 777.
Reproduction of diseased bursæ, 829.
Retina, Mr. Johnson's method by which an observer may see the, in his own eye, 885.
Reviews:—Dr. G. Budd on diseases of the liver, 38; Drs. Ballard and Garrod's elements of materia medica and therapeutics. 79; Dr. J. Arnott on the present state of therapeutical inquiry, ib; Dr. J. Williams' essay on the use of narcotics, and other remedial agents calculated to produce sleep, in the treatment of insanity, 81; Mr. W. Sands Cox's memoir on amputation of the thigh at the hip joint, 123; Mr. Tamplin's lectures on the nature and treatment of deformities, 163; MM. Becquerel and Rodier's researches on the composition of healthy and diseased blood, ib.; Mr. C. G. Guthrie on cataract, and its appropriate treatment, by the operation adapted for each peculiar case, 164; the London medical directory, 167; Dr. Brett's chemical table of the urine and urinary deposits, ib.; confessions of an homœopathist, 210; Guy's hospital reports, No. VI. 239, 297, 561; Cosmos, a general survey of the physical phenomena of the universe, by Alexander von Humboldt, 241; Dr. W. H. Robertson on the nature and treatment of gout, 295; Dr. Baly on the mortality in prisons, and the diseases most frequently fatal to prisoners, 345; Mr. Phillips on the potato disease, its origin, nature, and prevention, with a chemical and microscopical analysis of the diseased tubers, 384; Dr. Quain's anatomy, fifth edition, by Mr. Quain and Dr. Sharpey, part 2, 385; Dr. Corrigan on famine and fever, as cause and effect, in Ireland, with observations on hospital location, and the dispensation, in out-door relief, of food and medicine, ib.; Dr. R B. Todd's descriptive and physiological anatomy of the brain, spinal cord, and ganglions, and of their coverings, adapted for the use of students, 425; Dr. Murphy's lectures on natural and difficult parturition, 427; Mr. Teale's practical treatise on abdominal hernia, 429; reports of the medical officers of the lunatic asylum for the county of Lancaster, 467; Von Behr's pocket encyclopædia of the medical sciences, 470; Sir B. C. Brodie's lectures illustrative of various subjects in pathology and surgery, 516; Dr. G. C. Wittstein on the preparation and examination of chemical and pharmaceutical compounds, 519; Mr. Brown on scarlatina and its successful treatment by the acidum aceticum dilutum of the Pharmacopœia, 559; supplement to the third edition of Black's treatise on brewing, 564; instructions for making unfermented bread, ib.; Mr. Langston Parker on the modern treatment of syphilitic diseases, both primary and secondary, comprising numerous formulæ for the preparation and mode of administration of the new remedies, and an account of a safe and successful mode of treating chronic, protracted, and constitutional syphilis by the mercurial vapour bath, 601; Dr. W. H. Walshe on the nature and treatment of cancer, 603; Mr. Lawrence's Hunterian oration, 652; Landmann's German translation of Rayer on diseases of the kidneys, and on morbid changes in the urinary secretion, 655;

Dr. Martell Frank's practical introduction to the diagnosis and treatment of diseases of the ear, or manual of aural surgery, 656; Mr. Fergusson's system of practical surgery, 689; Mr. Miller's practice of surgery, ib.; Haidinger's retrospect of mineralogy for the year 1843, 691; Dr. Clutterbuck's series of essays on inflammation and its varieties, Essay 1, natural history of the disease, &c. ib.; Mr. Phillips on scrofula, its nature, its causes, its prevalence, and the principles of its treatment, 733; Mr. Bower's memoranda on difficult subjects in anatomy, surgery, and physiology, 739; Mr South's translation of Chelius's system of surgery, 783; Dr. Frederick J. Mouat's observations on the nosological arrangement of the Bengal medical returns, with a few cursory remarks on medical topography and military hygiene, 785; rough sketches, embracing the nature and treatment of the prevailing diseases of Port Phillip, New South Wales, 786; Mr. A. S. Taylor's manual of medical jurisprudence, 786; Mr. Swan on the physiology of the nerves of the uterus and its appendages, 824; Dr. Carpenter's manual of physiology, including physiological anatomy, for the use of the medical student, 826; Professor Will's outlines of the course of qualitative analysis followed in the Giessen laboratory, 829; Dr. Thurnam's observations and essays on the statistics of insanity, including an inquiry into the causes influencing the results of treatment in establishments for the insane, to which are added, the statistics of the Retreat near York, 861; sixth annual report of the Crichton royal institution for lunatics, 866; twenty-fifth annual report of the directors of the Dundee royal asylum for lunatics, ib.; fifth annual report of the Belfast district asylum for the insane poor, ib.; report of the directors of the Montrose lunatic asylum, infirmary, and dispensary, ib.; Drs. Maffei and Rösch's researches on cretinism, 868; Mr. Southam's essay on ovariotomy, removal of an encysted tumor of the left uterine appendages, 915; Dr. J. F. Heller's archives of physiological and pathological chemistry, including microscopical researches in their relations to practical medicine, 917; Dr. Lindley's vegetable kingdom, or the structure, classification, and uses of plants, illustrated upon the natural system, 960; Petréquin and Besanez's manual of medico-chirurgical and topographical anatomy, 965; the transactions of the provincial medical and surgical association, vol. xiv. 1001; the sick chamber, 1004; Mr. Preston's "open surgery" question considered, and its general adoption advocated, ib.; Drs. Canstatt and Eisenmann's annual report on the progress of the medical sciences in all countries for the years 1843-44, 1005; explanations, a sequel to the vestiges of the natural history of creation, 1045; Dr. Buff's elements of experimental philosophy in relation to chemistry and pharmacy, 1046; Dr. Burrows on disorders of the cerebral circulation, and on the connection between affections of the brain and diseases of the heart, 1089; Dr. R. B. Todd's cyclopædia of anatomy and physiology, 1120.

Rheumatism, acute, Dr. Schoenlein on the state of the fluids in, 333.

Rhubarb, Austrian, 975.

Roberts, Mr. Frederic, on military hygiene, 28.

Robinson's, Dr. W. observations on Guinea worm at Cape Coast Castle, 70.

Rose's, Mr. case of nævi materni mistaken for marks of violence, 530.

Rough sketches, embracing the nature and treatment of the prevailing diseases of Port Phillip, New South Wales, reviewed, 786.

Rowlands, Dr. notice of the death of, 128.

Royal College of Chemistry, first evening meeting of the, 1009; Dr. Davy on the use of the microscope as an aid in chemical inquiry, 1011; laying of the foundation stone, 1104.

Royal College of Surgeons, editorial remarks on the fellowship question, 649.

Royal College of Surgeons and the Hunterian oration, 662.

Royal College of Surgeons, illegality of the proceedings of the, 753.

Royal College of Surgeons, prizes awarded at the, 930.

Royal College of Surgeons, gentlemen admitted members, 88, 220, 308, 440, 533, 622, 755, 800, 844, 888, 931, 976, 1020, 1064.

Royal College of Surgeons, members admitted to the fellowship, 352, 755.

Royal Institution:—Professor Brande on the electro-chemical protection of metals, 247; Mr. A. S. Taylor on the temperature of the earth and sea, 393; Professor Faraday on the cohesive force of water; proofs of the existence of this force; measurement of its degree; experiments of MM. Henry and Donné; boiling point of water, 275°; repulsion of water by red-hot metals; spheroidal state of solids and liquids; water and mercury frozen in a red-hot crucible, 1096.

Royal Medical and Chirurgical Society, papers read at the:—Mr. J. S. Allen's essay on diarrhœa in children, and its connection with hydrocephalus, 242; Dr. Vincent's cases of disease of the brain following the application of a ligature to the carotid artery, 303; Dr. Spitta's case of congenital cyanosis of forty years' standing depending upon

patulous foramen ovale and obstruction in the pulmonary artery, 305; Dr. Brooke on the advantages of submucous tenotomy for the relief of strabismus, 387; Mr. Prescott Hewett's case of aneurism presenting some peculiarities, with remarks, 388; Mr. Rainey on the ganglionic character of the arachnoid membrane of the brain and spinal marrow, 389; Mr. Toynbee on the poisonous effects of animal food when eaten in a state of decomposition, with three cases of poisoning by bacon attended by temporary derangement of the mental faculties, 470; Mr. C. Handfield Jones on some points in the structure of the spleen and suprarenal capsules, 472; Dr. Chambers' oration, delivered at the anniversary meeting, 473; Mr. Acton's account of e case of partial double monstrosity, 521; Mr. Paget's case in which the corpus callosum, septum lucidum, and fornix were imperfectly formed, 522; Dr. Peacock's cases of lateral or partial aneurism of the heart, with remarks, 606; Dr. Golding Bird's case of excessive secretion of the ammonio-magnesian phosphate by the kidneys, with long continued vomiting, 607; Dr. J. H. Burgess's account of some experiments made with a concentrated alcoholic extract of stavesacre for the cure of itch, 608; Mr. Liston's remarks on wounded arteries, secondary hæmorrhage, and false aneurisms, 740; Dr. R. D. Thomson on the relation between the constituents of the food and the systems of animals, 965; Dr. Maclagan's account of a case of rupture of the gall-bladder from external violence, 967; Mr. Hutchinson on the capacity of the lungs, and on the respiratory movements, with the view of establishing a precise and easy method of detecting disease by the spirometer, 1047; Mr. Holmes Coote's case of melanosis, with observations, 1051; Mr. Meade's case of rupture of the heart from fatty degeneration of that organ, 1054; Mr. Lowdell's case of hydatid cyst, either originating in, or pressing upon, the prostate gland, 1054; Mr. Acton's observations on venereal diseases in the United Kingdom, from statistical reports in the army, navy, and merchant service, with remarks on the mortality from syphilis in the metropolis, compiled from the official returns of the registrar-general, 1121; Mr. Curling's cases of varicocele treated by pressure, with observations, 1123.

Royal Medical and Chirurgical Society, anniversary meeting of the, and election of office-bearers, 440.

Royal Society, first soirée of the, 394.

Rupture of the bladder, Mr. Hamilton's case of, 924.

Rupture of the gall-bladder from external violence, Dr. Maclagan's account of a case of, 967.

Rupture of the heart, Mr. Meade's case of, from fatty degeneration of that organ, 1054.

Ryall, Isaac, Esq. notice of the death of, 263.

St. Bartholomew's Hospital, number of patients admitted into, during the past year, 705.

St. Bartholomew's Hospital, the charge against two of the students of, 1105.

Salts of copper and bichloride of mercury, Mr. Horsley's direct antidote to the, 795.

Salts, on the effects of calcareous, in water, 928.

Saunderian Institution, Moorfields, opening of the, 532.

Scalp and face, Mr. Brown on wounds and injuries of the, 204.

Sciatica, Mr. Bencroft's report of a case of, with clinical remarks by Dr. Taylor, 565.

Scirrhus of the gall-bladder, 525.

Scirrhus of the breast, protraction of life in certain cases of, 987.

Scott, Mr. John, resignation of, 439; notice of the death of, 706; bequest of his property to the missionary societies, 928.

Scrofulous degeneration of the kidneys, Prof. Schoenlein's remarks on, 649.

Scurvy, lemon-juice used as a remedy for, in the 17th century, 113.

Secondary inflammations, Mr. Henry Lee's table of, with observations, 988, 1032.

Sex, doubtful, 621.

Sharkey's, Dr. E. cases of poisoning by opium, 235.

Shearman, Dr. E. J. on the microscope in urinary diseases, 128; on the causes, nature, and treatment of the late epidemic fever in Rotherham, 370; cases of oxaluria, 407.

Sialorrhœa, Dr. Glover's case of, with analyses of the saliva and urine, 377.

Signs of death, Mr. A. S. Taylor on the, 133.

Signs of an overstocked profession, 728.

Siliceous gravel, Dr. Venables' remarks on, 590, 945.

Silver, Mr. Butler Lane on the use of the oxide of, 640, 763.

Silver, Professor Faraday on the properties of, 711.

Simking's, Mr. case of partial placenta presentation, 174.

Sirocco, effects of the, 1018.

Skin, Mr. Erichsen's practical observations on some of the more important special diseases of the, 14; on some local forms of chronic eczema, ib; chronic eczema of the face, ib.; of the ears, 16; eczema of the tongue and inside of the mouth, 17; eczema of the scrotum, penis, and anus, 65; eczema of the scalp, 67; treatment of, 107; chronic eczema of the hands, 278; porrigo scutulata, (Willan); tri-

chosis scutulata (Willis); herpes tonsurans (Cazenave), 1072.
Small-pox, editorial observations on the mortality in the provinces from, for the quarter ending December 1845, 343.
Small-pox and vaccination, editorial remarks on, 824.
Small pox, state of the urine in, 843.
Societies, anniversary meetings of, 380.
Solly's, Mr. clinical lecture on diseases of the superior maxilla requiring operation, 89; on a case of compound dislocation of the astragalus, 265.
South's, Mr. translation of Chelius's system of surgery, reviewed, 783.
Southam's, Mr George, essay on ovariotomy: removal of an encysted tumor of the left uterine appendages, reviewed, 915.
South London Medical Society, papers read at the: Mr. Hicks on the treatment of pneumonia as occurring in children, 41; Mr. Squire's case of abdominal disease, 167.; Mr. Wright's cases of fatal obstruction of the bowels, 216; Mr. Hicks's case of pericarditis, 306; severe cases of constipation, 392; Dr. Aldis's case of aneurism of thoracic aorta, with symptoms of enlarged heart, 479; Mr. Charles Taylor's case of tumor in the chest 567; Dr. Munk's cases of erysipelas, 659; Dr. Lever's cases of tumor in the abdomen, 745; Dr. Todd's case of hysteria, 869; Mr. Sterry's case of hæmorrhage from the gums, 918; Mr. C. Taylor's midwifery case, 1008.
South London Dispensary, annual festival of the, 972.
Spa-fields burial-ground, editorial observations on the, 907.
Spain, the yellow fever in, 885.
Spermatozoa in the fluid of hydrocele, 972.
Spina bifida, Dr. Perry's snalysis of the liquid of, 851.
Spine, case of dislocation of the, 924.
Spinal deformity, mechanical contrivances in cases of, 364.
Spitta's, Dr. case of congenital cyanosis of forty years' standing, 305.
Spittal's Dr. observations on the mechanical and diagnostic value of the friction vibrations perceived by the ear and by the touch in peritonitis, 87.
Spleen, spontaneous rupture of the, 53; absence of the, 975.
Spontaneous cure of femoral aneurism; mortification of the toes, 708.
Spontaneous amputation of the fœtal limbs, 868.
Stafford's, Mr. cases of injuries caused by the explosion of gunpowder, 322.
Stallard's, Mr. cases illustrative of, and remarks upon, the pathology of oxalate of lime in the urine, 118, 323.
Statistics of hospitals, and the general mortality of the principal cities of Europe, 300.
Steam-boilers, method of preventing saline incrustation in, with remarks by the editor, 128.
Sterry's, Mr. case of hæmorrhage from the gums, 918.
Stickings's, Mr. case of placenta prævia, 815.
Strabismus, Dr. Brooke on the advantages of submucous tenotomy for the relief of, 387.
Strange, Dr. on the formation of a system of national medical police and public hygiene, with observations on those clauses of the Health of Towns' Bill which refer to the appointment of district medical officers of health, 452.
Strangulation of the bowels from effused coagulable lymph, Mr. Dove's case of, 703.
Strangulated inguinal hernia, Mr. Bourne's case of, 882.
Stricture, Dr. Mercier on organic or permanent, 494.
Stricture of the rectum, Mr. Pilcher's case of—constipation for 30 days, 570.
Structure and functions of the placenta, Mr. Goodsir's conclusions relative to the, 1013.
Strumous disease of the joints, head affection in cases of, 451.
Strychnia, Dr. J. Watson on a case of poisoning by, 253; another case, 254.
Strychnia, poisoning by, 716.
Strychnia, report of a case of poisoning by, 833.
Strychnia, Mr. Evans's case of poisoning from, 925.
Strychnine, new test for, 130.
Swallowing of pins, 836.
Swan, Mr. on the physiology of the nerves of the uterus and its appendages, reviewed, 824.
"Suicide," editorial remarks on verdicts of, by coroners' juries, 876.
Suicide of a female, remarkable, 457.
Sulphuric acid in organic matter, Mr. A. S. Taylor on certain fallacies connected with the use of the iodic test for the detection of, 954.
Surgeon, social duties of the, 599.
Surgeons, impressment of, in the 17th century, 925,
Surgical cases, Mr. Luther Holden's clinical report of, at St. Bartholomew's Hospital: —Compound fracture of the skull, with laceration of the dura mater, and protrusion of the brain; hernia cerebri; death on the 33d day, 1098; large irreducible scrotal hernia; doubtful symptoms of strangulation; operation on the fifth day; neck of the sac found quite free; death; stricture caused by a membranous band within the sac; unusual position of the testicle, 1100; wound of the head; delirium tremens; erysipelas of the scalp;

suppuration beneath the tendon of the occipito-frontal muscle; death; disease of the lungs, liver, and kidneys, 1101.
Surrey dispensary, meeting of the friends and supporters of, 973.
Survivorship, case of, in which it was presumed and decided that the wife survived the husband, with remarks by the editor, 250.
Sydenham Society and its members, 86; gentlemen elected office-bearers, 842.
Syme's, Mr. case of lachrymal calculus, 1036.
Syphilis, Mr. Bartlett on the treatment of, 330.
Syphilis, secondary, use of the bromide of potassium in, 972.
Syphilis treated by means of galvanism, 1015.
Syphilitic disease, alleged communication of, from an infant to a nurse—action for damages, 799.
Syrian medical practice—mode of remunerating medical practitioners, 929.
Syringe, Mr. Philp's new enema, 791.

Table of urinary deposits, Dr. R. C. Golding's, 854.
Tamplin's, Mr. lectures on the nature and treatment of deformities, reviewed, 163.
Tariff, editorial remarks on the new, in relation to foreign medical works, 239.
Taylor's, Mr. A. S. lectures on medical jurisprudence, see "Medical jurisprudence."
Taylor, Mr. A. S. on the temperature of the earth and sea, 393.
Taylor, Mr. A. S. case of poisoning by opium communicated by, 724
Taylor's, Mr. A. S. manual of medical jurisprudence, reviewed, 786.
Taylor, Mr. A. S. on certain fallacies connected with the use of the iodic test for the detection of sulphuric acid in organic matter, 954.
Taylor's, Mr. Charles, case of tumor in the chest, 567.
Taylor's, Mr. C. obscure midwifery case, 1008.
Teale's, Mr. practical treatise on abdominal hernia, reviewed, 429.
Temperature of the month of January, 132.
Temperature of the earth and sea, abstract of Mr. A. S. Taylor's lecture at the Royal Institution on the, 393.
Test for prussic acid, 706.
Testicle, detained, danger of mistaking for bubonocele, 316.
Testimonial to Dr. Billing, 842.
Tetanus, periods at which it occurs, 316.
The sick chamber, reviewed, 1004.
Theories and hypotheses, 233.
Therapeutic effects of animal heat, 75, 513.
Therapeutical inquiry, Dr. J. Arnott on the present state of, reviewed, 79.
Therapeutic properties of guano, 975.
Thomson's, Dr. case of scirrhus of the thymus gland, 433.
Thomson's, Dr. A. T. clinical remarks on a case of ovarian dropsy, 482.
Thomson, Dr. R. D. on the relation between the constituents of the food and the systems of animals, 965.
Thompson's Dr. account of a case of dissecting aneurism of the aorta, 584.
Thoracic aorta, Dr. Aldis's case of aneurism of the, 479.
Thurnham's, Dr. observations and essays on the statistics of insanity, including an inquiry into the causes influencing the results of treatment in establishments for the insane; to which are added, the statistics of the Retreat near York, reviewed, 861.
Tibial artery, Dr. J. C. Hall on ligature of the posterior, for a wound, 233.
Todd's, Dr. R. B. case of hysteria, 869.
Todd's, Dr. R. B. descriptive and physiological anatomy of the brain, spinal cord, and ganglions, and of their coverings: adapted for the use of students, reviewed, 425.
Todd's, Dr. R. B. cyclopædia of anatomy and physiology, reviewed, 1120.
Tomes's, Mr. J. course of lectures on dental surgery, see "Dental physiology and surgery."
Tongue, case of abscess in the, 88.
Town and rural populations, editorial observations on the health of the, 859.
Toynbee, Mr. on the poisonous effects of animal food when eaten in a state of decomposition; with three cases of poisoning by bacon, attended by temporary derangement of the mental faculties, 470.
Transactions of the Provincial Medical and Surgical Association, Vol. 14, reviewed, 1001.
Transparency of the human body, 505.
Trephining, Dr. Schuh's cases of, 922.
Trisceles monster, account of the, 619.
Trismus, traumatic, Mr. George's case of, with remarks, 394.
Tuberculous abscess of the lungs opening externally, 1016.
Tumor in the chest, Mr. C. Taylor's case of, 567.
Tumor, enormous fungoid, of the abdominal walls, Mr. Wildbore's report of a case of, with clinical remarks by Mr. Phillips, 692.
Tumors of the face, Mr. Crompton's cases of, 677.
Tumor in the abdomen, Dr. Lever's cases of, 745.
Tumor, fibrous, of the upper jaw, Mr. C. Hawkins's remarks on a case of, 1021; fibrous tumor of the palate, 1024.
Tumor, adipose, Sir B. Brodie on a peculiar form of 1028; diagnosis of, 1060.
Tumors pendulous, of the breast, 1119.
Turner, Mr. John, notice of the death of, 582.

Twins born at an interval of two months, 27.
Typhus fever at Camberwell, 1020.

Ulcer, irritable, 217.
Ultramarine, artificial, its composition and chemical properties, 709.
Universities of Denmark, 1062.
University College Medical School, report of the annual meeting of proprietors of the, 380; notice of the annual distribution of prizes at, 842.
University College Hospital, laying of the foundation stone of the north wing of, 928.
University of London, on the degrees granted by the, 349.
University of London, examinership in surgery vacant, 439.
Unprofessional circular, 1019.
Urethra, Dr. Mercier's researches on stricture of the, 316, 494, 628, 801.
Uric acid in urine, mode of determining the amount of, 834; detection of, in urine containing bile-colouring matter, 835.
Urinary diseases, Dr. Shearman on the microscope in, 128.
Urinary deposits, Dr. R. C. Golding on, 1016.
Urinary calculus, the nucleus of which was found to be a pin, 463.
Urinary calculus in the pig, 1125.
Urinary organs in scarlatina, M. Schoenlein on the state of the, 465.
Urinary deposits, Dr. Ray Charles Golding's table of, 854.
Urine, introduction to the clinical chemistry of the, 73.
Urine, Mr. Stallard on the pathology of oxalate of lime in the, 118, 323.
Urine, Mr. Pooley's notes of seven cases of oxalate of lime in the, 502.
Urine, mode of determining the amount of uric acid in, 834.
Urine in small-pox, state of the, 843.
Urine in pregnancy, state of the, 947.
Uterine hæmorrhage after delivery, Mr. Pretty on the treatment of, 114.
Uterine hæmorrhage, Mr. Harvey on, after the expulsion of the placenta, 219.
Uterine phlebitis: secondary abscesses, Mr. C. Hawkins' clinical observations on, 933.
Uterus, Mr. Gregson's case of extirpation of the, 342.
Uterus, Dr. Oldham's clinical lecture on diseases of the, 667.
Uterus, conception occurring after inversion of the, 1071.

Vaccination, editorial observations on the French report on, 36.
Vaccination, objections by the editor to the French report on, 291.
Vaccination and small-pox, editorial remarks on, 824.
Vaccination in Stockport, results of, 843.
Valentin on the functions of the nerves of the orbit, Mr. France's translation of, 335, 415, 549, 644, 726, 815.
Valvular disease of the left cavities of the heart, Dr. Golding's instance of, 1038.
Varicocele, Mr. Curling's cases of, treated by pressure, with observations, 1123.
Vaux, Dr. G. notice of the death of, 621.
Vegetable therapeutics, 120.
Venables', Dr. Robert, observations on siliceous gravel, 590, 945.
Venereal diseases, Mr. Acton's observations on, 1121.
Venereal ulcer of the pharynx, death from hæmorrhage from extension of a, to the lingual artery, 822.
Vincent's, Dr. cases of disease of the brain following the application of a ligature to the carotid artery, 303.
Vis medicatrix, Dr. Mayo on the, 809.
Volume, editorial remarks on the completion of the present, 1118.
Volvulus and strangulation of the intestine within the abdomen, remarkable case of, 577.
Vulva, Dr Oldham on a follicular disease of the, with cases, 845.

Waddy, Dr. J. M. note from, respecting Mr. Adams's theory of uterine hæmorrhage, 303.
Walshe, Dr. W. H. on the nature and treatment of cancer, reviewed, 603.
Wardell, Dr. John Richard, on the Scotch epidemic fever of 1843-44, 22, 151, 226, 505, 771, 948.
Warts, nævi, and serous cysts, Mr. C. Hawkins' clinical observations on a case of, 1025.
Washhouses and baths for the labouring classes, 1063.
Water, deep well, of the London basin, Professor Graham's analysis of the, 43.
Water, Professor Faraday on the cohesive force of; proofs of the existence of this force; measurement of its degree; experiments of MM. Henry and Donné; boiling point of water, 275°; repulsion of water by red-hot metals; spheroidal state of solids and liquids; water and mercury frozen in a red-hot crucible, 1096.
Weatherhead, Dr. resignation of, 439.
Well-water poisoned by arsenic, 843.
West of London Medico-chirurgical Society, 620.
Western medical and surgical society, first meeting of the, 872.
Westminster Hospital, Mr. Phillips' remarks on cases treated in the:—Curious tumor of the neck, 51; case of calculus vesicæ, 52; tumor of the cranium, 435; bent clavicle, ib.; strangulated hernia, 436; severe fracture of the skull without concussion, followed by symptoms of compression of thirty-six hours' duration, and complete recovery, 524; a case of

enormous fungoid tumor of the abdominal walls, 692.
Westminster Medical Society:—Mr. Wetherfield on the external and internal use of tar in senile and other chronic eruptive diseases, 125; Mr. Hancock on a remarkable case of paraphymosis, 246; Mr. Harding's case of disease of the ankle-joint, 481; Dr. Merriman's case of abscess of the brain, 609; Mr. Fisher's case of insanity of fifteen years' standing, with effusion beneath the dura mater, and the formation of new membrane, 657.
Westminster Medical Society, election of office-bearers, 486.
White, Mr. Anthony, resignation of, 379.
White's, Mr. Anthony, case of removal of the whole of the left half of the lower jaw, 529.
Widows and orphans of medical men in London and its vicinity, minutes of the society for the relief of, 665; annual dinner of the, 798.
Wildbore's, Mr. Frederick, report of a case of enormous fungoid tumor of the abdominal walls, with clinical remarks by Mr. Phillips, 692.
Will's, Professor, outlines of qualitative analysis followed in the Giessen laboratory, reviewed. 829.
Williamson's, Dr. case in which the rectum terminated in the urethra, the child living upwards of eight months, 767, 804.
Williams's, Dr. T. cases of renal dropsy, 82.
Winn's, Dr. case of fistulous opening between the œsophagus and left bronchus, 259.
Witnesses, payment of medical, 798.
Wittstein, Dr. G. C. on the preparation and examination of chemical and pharmaceutical compounds, 519.
Wound of the penis from the bite of a horse, 672.
Wounds, poisoned, 1088.
Wynne, Mr. Rice, notice of the death of, 753.

Yellow fever in Spain, 885.

Zinc, Professor Faraday on the properties of, 579.
Zoological Society, papers read at the:—Professor Owen on the Echidna, or Ornithorhynchus hystrix, 215.

END OF VOL. XXXVII.—VOL. II. N. S.

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